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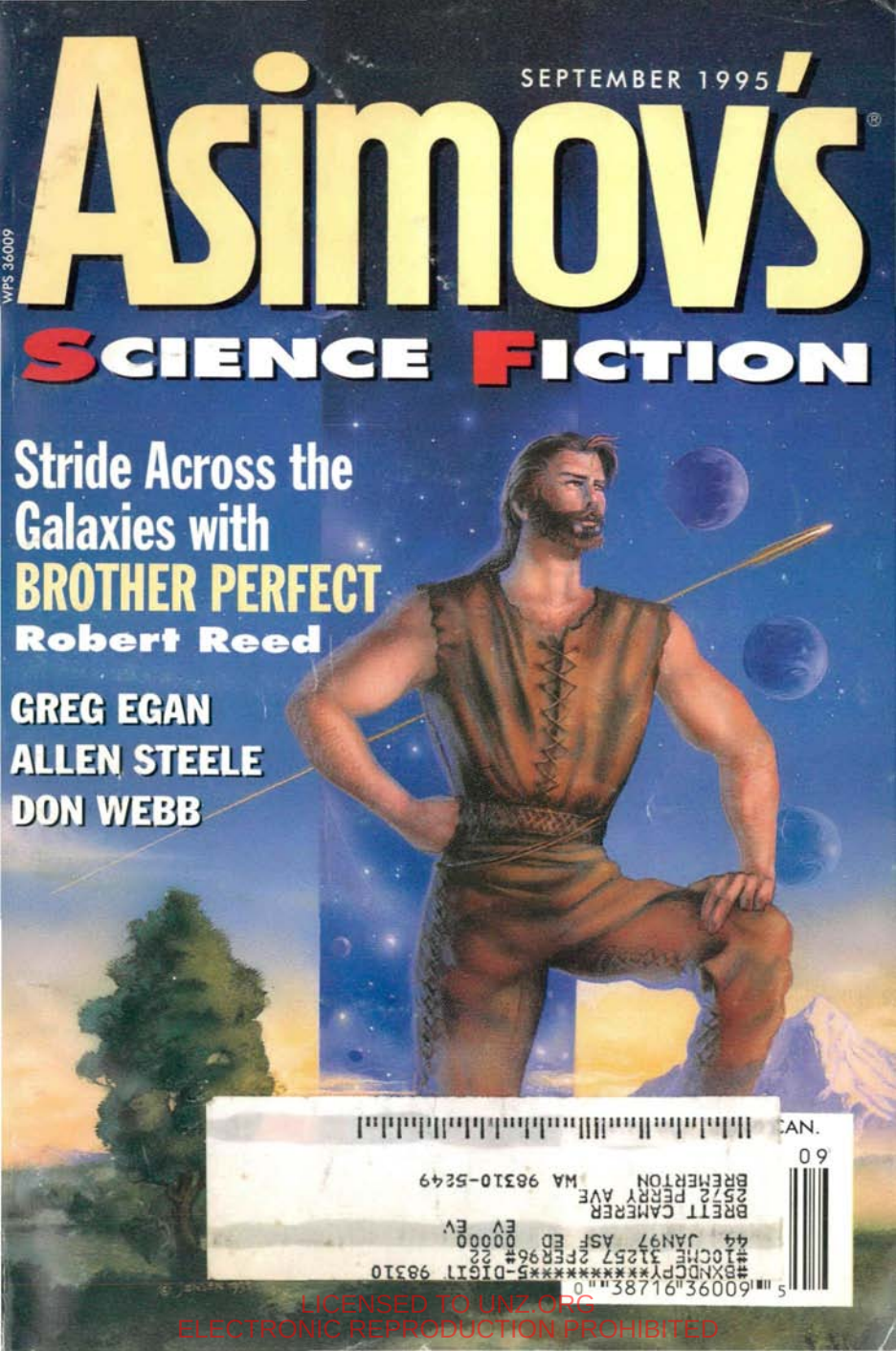

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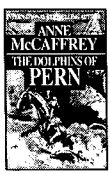

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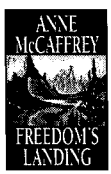

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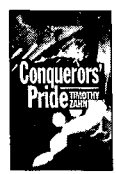

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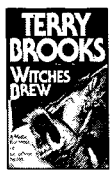

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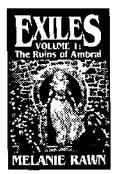

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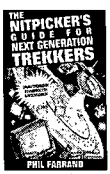

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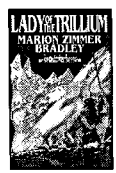

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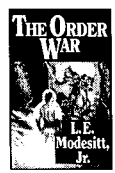

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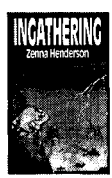

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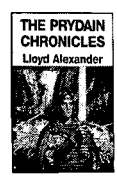

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Vol.19 No. 10 (Whole Number 236) September 1995
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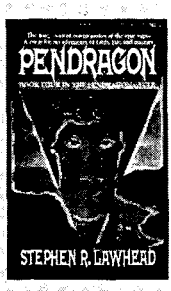

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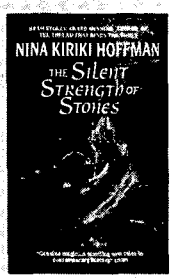

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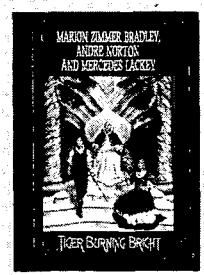

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REFLECTIONS

by Robert Silverberg

NOT THE BOOK REVIEW COLUMN

This is not the book review column. I don't care. I'm about to discuss a book that I think you ought to buy, and so be it.

The only way you can buy the book I'm going to talk about, these days, is to join the Science Fiction Book Club. So this is, in a way, an unpaid advertisement for the SFBC. I don't care about that either. What I'm really doing is publicly repaying a debt of my own of many decades' standing, and if the Science Fiction Book Club happens to cash in on it also, well, so be that, too. What the hell, the Science Fiction Book Club is owned by the same multitentacled publishing conglomerate that owns this very magazine, so I doubt that anybody back at corporate headquarters will take serious offense.

The book I'm talking about is:

ADVENTURES IN TIME AND SPACE
Edited by Raymond J. Healy and J. Francis McComas
Science Fiction Book Club, $15.98

I have my own actual tattered first edition copy, dating from 1946, before me on my desk as I write. The publisher back then was Random House, which I suppose still owns the rights and has licensed them to the SF Book Club for this new edition. I bought it in 1948 at Macy's Book Department in New York for $2.95 of my father's money, and I have cherished it most dearly ever since.

I suppose I've read it a dozen times, maybe more, which is a considerable statement, inasmuch as the book has 997 pages of fairly small type and I was but a lad when I first started reading it. (The edition that you are beyond any doubt going to order from the Science Fiction Book Club as soon as you finish reading this column is probably somewhat smaller than the one I'm looking at, because the Book Club's flyer says that there are thirty-three stories in the book, and my copy contains thirty-five, counting two non-fiction pieces. Since I don't have a copy of the modern edition, I can't tell you whether the discrepancy occurs because two stories from the original have been deleted, or because the Book Club people don't regard the non-fiction pieces as "stories," or simply because somebody at the Book Club can't count straight. One of you will buy the book and write in and tell me, right?)

Adventures in Time and Space

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changed my life, back there in the Neolithic Age when I was crossing the threshold of puberty. I was already reasonably seriously interested in reading science fiction, but the Messrs. Healy & McComas gave me the full inoculation, the unshakeable lifetime addiction. It is, I think, the best science-fiction anthology ever published, which I say in full knowledge of the fact that a lot of good science fiction stories have been written since 1945 and some splendid SF anthologies have been assembled from them. (I've written some of the former myself, and edited some of the latter. I don't care about that either. *Adventures in Time and Space* is the all-time peak.) It is a volume of marvels and wonders that has continued to ricochet around in my mind ever since I first read it. It will, I guarantee, have the same effect on you. If it doesn't, send me your copy care of this magazine and at no extra charge to you I will find an appreciative reader for it. You have my word of honor on that.

What this book of wonders contains—those thirty-three short stories and two pieces of nonfiction—is the essence of what used to be called the Golden Age of Science Fiction, that is, the period when John W. Campbell, Jr., was editing the magazine that then was called *Astounding Science Fiction* (now our companion title, *Analog*). Everything in the book but for five or six relatively minor items first was published in Campbell's magazine between 1938 and 1945, a good indication of what a dominant factor in the field *Astounding* was then. Five of the contributors have since become official Grand Masters of Science Fiction, by designation of the Science Fiction Writers of America: Robert A. Heinlein, Isaac Asimov, Alfred Bester, L. Sprague de Camp, and Lester del Rey. (Fine stories by future Grand Masters Simak, Leiber, and Williamson, surprisingly, were overlooked by the editors; Grand Masters Clarke, Bradbury, Norton, and Pohl had not yet written the works that would eventually qualify them for the award.) A. E. van Vogt, a writer who would have been on anybody's Grand Master list a generation ago but unaccountably has failed to gain the accolade, is represented also, and so are four others —Eric Frank Russell, Henry Kuttner, Anthony Boucher, and Campbell himself—who would surely have been named had they lived on into the era when the Grand Master award was initiated. Many of the others (Raymond Z. Gallun, Ross Rocklynne, P. Schuyler Miller, Fredric Brown, etc.) did distinguished work in our field once upon a time also.

There aren't any bad stories in the book, though some, of course, are better than others. There are a lot of fantastically good ones. I gobbled them up indiscriminately, one after another, dazed by the visions of futurity that they offered me, and to this day my notion of

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the eras to come remains colored irrevocably by the scenes and images in which this book abounds.

Consider Robert A. Heinlein's "The Roads Must Roll." Not his best story, not by plenty. (It was among the first he wrote.) But the ferocious future of high-velocity mechanized highways that Heinlein conjured up still blazes in my memory. No one had ever told a science-fiction story quite this way before, and the old way was dead once Heinlein had opened this new path. Or Heinlein's "Requiem," sentimental, perhaps, but unforgettable, an inspiration to a whole generation of space-flight engineers. And what about Heinlein's "By His Bootstraps" (yes, *three* Heinleins—that was his stature in the field even back in 1946, six years after the start of his career), the most dizzying time-travel story ever written, until Heinlein himself surpassed it at one-fifth the length with "All You Zombies—"? Not just time paradoxes here, either: that story provides as spooky a view of the far future as I have ever seen in just a few paragraphs, on page 925 of my edition.

Spooky? What about Campbell's implacable SF horror story, "Who Goes There?"—twice filmed as *The Thing*, but immensely scarier in its original form? "The place stank," is how it opens. "A queer, mingled stench that only the ice-buried cabins of an Antarctic camp know . . . ." I need only read those words and the rest of the story unreels itself automatically in my mind,

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line after line, onward to the overwhelming final words, "They came from a world with a bluer sun."

Isaac Asimov is here, of course. "Nightfall," which he wrote when he was twenty-one and which remained his most famous story all his life. Here's van Vogt's mysterious, haunting "The Weapons Shop," which serenely deposits us in the village of Glay in the year seven thousand-something and asks us to figure it all out, and here is van Vogt again with the nightmarish portrait of alien life, "Black Destroyer," and even a third of his fascinating, bewildering stories, the novella "Asylum."

A trio of mood pieces, spaced hundreds of pages apart, sketched the truly distant future for me in a way that would shape my imagination forever: Campbell's "Forgetfulness," Raymond Z. Gallun's "Seeds of the Dusk," and Ross Rocklynne's sardonic "Quietus." Henry Hasse's novella "He Who Shrank" pulled out all the stops as it took us on a tour of all of space and time in sixty-seven pages. Lester del Rey, writing three years before the dawn of the Atomic Age, offered a stunning vision of the world of deadly isotopes in his classic "Nerves." Fredric Brown's "The Star Mouse," Henry Kuttner's "The Twonky" and "Time Locker," Anthony Boucher's "Q.U.R.," and L. Sprague de Camp's "The Blue Giraffe" provided comic relief of varying kinds.

And on and on and on: Harry Bates's "Farewell to the Master," which became one of the best of the

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SALUTES THE WINNERS OF THE 1994 NEBULA AWARDS GIVEN BY THE SCIENCE FICTION AND FANTASY WRITERS OF AMERICA

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by Greg Bear

Best Novella
"SEVEN VIEWS OF OLDUVAI GORGE"
by Mike Resnick

Best Novelette
"THE MARTIAN CHILD"
by David Gerrold

Best Short Story
"A DEFENSE OF THE SOCIAL CONTRACTS"
by Martha Soukup

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early science fiction films, and Schuyler Miller's tricky archaeological time-paradox story, "As Never Was," and Alfred Bester's "Adam and No Eve," and—well, there are some others, too. They aren't all masterpieces of equal stature but there isn't one that I would dispense with. Each one, even the weakest, is a cornerstone in the foundation of modern science fiction.

And so: a word to the wise. Buy the book. Read them all. This is a magical collection. It opens doorways in the mind. It did for me, at any rate, and I find it hard to believe that in the forty-seven years since I first discovered this wonderful anthology the stories that it contains have somehow become obsolete. No longer state-of-the-art, naturally, but still gloriously charged with the power and grandeur and wonder that we seek from science fiction.

It was my ambition, from the moment I gave *Adventures in Time and Space* its first of many readings, to write something myself that would have been good enough to be included in that book. At first—I was 13, remember—I simply *imitated* my favorite stories, producing my own klutzy little versions of "He Who Shrank" and "By His Bootstraps." Then I managed a higher degree of originality, and then, a couple of decades later, managed to produce some work that might have made the Healy-McComas grade. I think I hit that level at least two or three times. I would like to think so, anyway. For me there's no higher goal to shoot for in the science fiction field. ●

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9TH ANNUAL READERS' AWARD RESULTS

Photo Credit: Jane Jewell

From left to right: Bob Eggleton, Gardner Dozois, Alan Gordon, Joachim P. Rosler, and Sheila Williams.

Once again—boy, the years go by fast—it's time to tell you the winners of *Asimov's Science Fiction's* Annual Readers' Award poll, which is now in its ninth year (although it seems to us as if it were only yesterday that we started it!). As always, these were your choices, the stories and artwork and poetry that you—the readers—liked best out of all the stuff we published in 1994. The readers were the only judges for this particular award—no juries, no experts—and, once again, it's intriguing to compare results with the Hugo and Nebula ballots, as well as with the readers' polls conducted by *Locus* and *SF Chronicle*. This year's winners, and runners-up, were:

NOVELLA

1. FORGIVENESS DAY, URSULA K. LE GUIN
2. Les Fleurs du Mal, Brian Stableford
3. Remains of Adam, A.A. Attanasio
4. Werewolves of Luna, R. Garcia y Robertson
5. Cri de Coeur, Michael Bishop
6. Up the Rainbow, Susan Casper
7. A Martian Childhood, Kim Stanley Robinson (tie)
7. The Mermaid's Comb, Mary Rosenblum (tie)
8. Soon Comes Night, Gregory Benford
9. Via Roma, Robert Silverberg
10. Syrtis, Alexander Jablokov

NOVELETTE

1. COCOON, GREG EGAN
2. The Lovers, Eleanor Arnason
3. The Hole in the Hole, Terry Bisson
4. Adaptation, Connie Willis
5. Cretaceous Park, Kandis Elliot
6. Rat, Mary Rosenblum (tie)
6. Selkies, Mary Rosenblum (tie)
6. Dedication, Eric Choi (tie)
6. Good With Rice, John Brunner (tie)
7. Big Jelly, Rudy Rucker & Bruce Sterling
8. Apocalypse's Children, R.V. Branham (tie)
8. Things of the Flesh, L. Timmel Duchamp (tie)
9. Cilia-of-Gold, Stephen Baxter (tie)
9. The Bee's Kiss, Charles Sheffield (tie)
10. Nekropolis, Maureen F. McHugh

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SHORT STORY

1. DIGITAL MUSIC, ALAN GORDON
2. Death and the Librarian, Esther M. Friesner
3. Why the World Didn't End Last Tuesday, Connie Willis(tie)
3. Barnaby In Exile, Mike Resnick (tie)
4. I Know What You're Thinking, Kate Wilhelm
5. Dead Man's Curve, Terry Bisson
6. Mrs. Lincoln's China, M. Shayne Bell
7. Whinin' Boy Blues, Allen Steele
8. The Changeling's Tale, Michael Swanwick
9. The Madonna of Port Lligat, Steven R. Boyett
10. None So Blind, Joe Haldeman

BEST POEM

1. WHEN THE VOICES, W. GREGORY STEWART
2. Love's Labours Glossed, Lawrence Schimel (tie)
2. Big Boom, Joe Haldeman (tie)
3. On Wanderer's Day, William John Watkins (tie)
3. Waiting to Explode, Joe Haldeman (tie)
4. Changing, Wendy Rathbone (tie)
4. Dinosaur Highway, Scott E. Green (tie)
5. On the Theory of Everything, Lawrence Schimel (tie)
5. Sleeping with the Dinosaurs: to Jack Horner, Sandra J. Lindow (tie)
6. Einstein's Brain, Keith Allen Daniels
7. Lullaby for Recent Settlers on Starfall Five, William John Watkins
8. Gingko, Howard V. Hendrix
9. The Wonders of Interstellar Free Trade, Tom Disch
10. Not a Dick Novel, Lawrence Person (tie)
10. Flight 063, Brian W. Aldiss (tie)
10. Piloting Alone Out There, Robert Frazier (tie)
10. Endlessness, Tom Disch (tie)

BEST COVER ARTIST

1. BOB EGGLETON
2. Kinuko Y. Craft
3. Gary Freeman
4. Wojtek Siudmak
5. Jim Burns
6. Mark Harrison
7. Pamela Lee
8. Chris Moore
9. Todd Lockwood (tie)
9. Ron Fleming (tie)
10. Greg Le Fevere

BEST INTERIOR ARTIST

1. GARY FREEMAN
2. Steve Cavallo
3. Laurie Harden
4. Kandis Elliot
5. Dell Harris
6. Gina Mohr LoParo
7. Bob Eggleton
8. Jonathan & Lisa Hunt
9. Ron Chironna (tie)
9. Alan M. Clark (tie)
10. Pat Morrissey

Both our Readers' Awards and *Analog's* Analytical Laboratory Awards were presented on April 21st, 1995, during a combined Dell Magazines/Bantam cocktail party on the 44th floor of the Bertelsmann building, right here at 1540 Broadway, on the evening before the annual Nebula Award Banquet. Each winner received a cash award and a certificate. Of the *Asimov's* winners, Alan Gordon and Bob Eggleton were on hand to receive their awards in person. There were too many other Famous People at the party to list them all, or even some of them, but a good time seemed to have been had by all.

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LETTERS

Dear *Asimov's:*

I just had to write to thank you for a wonderful magazine. I have subscribed to your magazine for several years, yet only recently started reading the book review sections. I have to say that I'm sorry for the ones that I missed if they are as good as the one that recommended "The Parable of the Sower" by Octavia Butler. This was one of the best books I've ever read. Fortunately I read the review of this book in your magazine or I would never have found the book at all. I live in the middle of nowhere, I have to go at least a hundred miles to get to a book store. So when I buy a book through the mail I usually only buy books by authors I know. I have expanded that knowledge through the pages of your magazine, but I had never heard of Ms. Butler, and the title wasn't one I would have looked twice at. Now after reading it I would have to rank her among my favorite authors. I was very moved by it and will eagerly await her next book. With quality like this I can hardly wait to see what she writes next.

I also wanted to take the time to welcome Mr. Silverberg to your pages. I have really enjoyed his column and I find it to be very thought provoking. I especially enjoyed the column in the January 1995 issue. I wonder if he is right to think that the violence of our youth is just a natural part of the cycles of this earth. I sure hope so. It would be nice to think that there is hope for this world after all.

Thank you so much for a truly wonderful magazine. I can hardly wait for each month to end so my next issue of *Asimov's* will get here.

Patricia A. Battson
Ehrenberg, AZ

Dear Mr. Silverberg,

I have been a fan of yours since "Dying Inside," and was glad to see your appearance in the pages of *Asimov's Science Fiction*. However, the Mid-December 1994 installment of "Reflections" shook me.

Let me explain to you: I grew up in Singapore, spending the years between 1969 to 1988 as a child, a student, and (for a very short while) a soldier. While I am not an expert in Singapore history, or even its politics, and I left Singapore behind gladly (and hence am not an unbiased observer), I have stayed in touch with my friends there, and would like to make a few comments on "Crime and Punishment."

For instance, you say "nor have Singaporeans risen in wrath

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against their severe code of laws." The primary reason for that is the immense harshness of Singaporean laws. For instance, politicians like Jeyaratnam, upon gaining an opposition seat in government, was sued by the Prime Minister for libel and thrown in jail and bereft of all his possessions. He appealed to the supreme court in Singapore, which overturned the lower courts, whereupon the government immediately dismissed the chief justice and replaced him with one more amenable to "doing the right thing" (which is to say, eliminating the opposition). Another example: in the 1960s, certain Singaporean newspapers wrote articles critical of the ruling party (the People's Action Party, ruled by Lew Kwan Yew)—those papers immediately lost their licenses and were no longer allowed to print. They were also harassed frequently by the police.

In 1986, a group of Catholics were arrested and tortured and made to admit (on national television) "plans against the state." I have a friend whose brother was taken away in the middle of the night and then tortured and detained without trial. He still remains in custody. Try getting a Singaporean to talk about politics frankly—if he's in Singapore, he'll look around nervously and never really open up. That's how oppressive the state is. Another example: a professor at the NUS co-wrote an article for the *International Herald Tribune* stating that "certain Asian countries do not have an independent judiciary." (Note that he did not name any countries—other countries in Asia have violated human rights, too.) The very next day, police were at his door asking questions. If he had not left the country that very week (to return to the USA), there is no doubt he would have been thrown in jail, possibly never to have been heard from again, as an example to foreigners.

The thrust of your article implied, perhaps, that Singaporeans are happy with this state of affairs and are happy with the government. I would like to refute that. The Singaporeans who are happy with this state of affairs change their minds upon exposure to American politics and realize how much better a state of affairs it is—however "Western" it is. I've seen more of my college Singaporean friends resist returning to Singapore for reasons of politics than anything else. Asian governors that hide behind "Asian values" as an excuse to oppress their citizens do not deserve sympathy for their policies.

I am aware that you're trying to point out that Americans should not impose their values upon the rest of the world. That is an applaudable thing in itself. But I think that your example is not necessarily ideal, and that you dismiss too summarily the fact that Americans *do* have many things to teach the world, and a true and

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open democracy is one of them. Remember the Tiananmen incident: those students did not have a real idea of what freedom and democracy are, but they wanted it anyway, and died for it. Human beings are human beings, no matter what their culture is or who they are.

About the Michael Fay incident: Singaporeans and Malaysians had a healthy discussion on it over the net. We agreed that Singapore's laws are unnecessarily harsh and unreasonable—for instance, you can't buy books critical of the government in Singapore (that's assuming you can get one published—Philip Jeyaratnam, son of Jeyaratnam, Sr., had trouble getting his publisher to publish a novel that had a character mildly critical of the government and the lifestyles of Singaporeans in general)—that you can't buy chewing gum (it messes up the streets and makes them hard to clean), and that caning is unnecessarily harsh. We also agreed that this whole incident was more a matter of "face" than anything else—it also demonstrated President Clinton's lack of understanding of Asian governors.

I think that in science fiction at least, the best way to describe America's foreign policy is to compare it to Iain M. Banks's "The Culture." Here you have a Utopia, or at least a self-professed one that believes its mission is to bring the state of bliss to other cultures and other worlds, but the mechanisms it employs, even though they're well-meaning, are rather suspect and have many tragic results.

In closing, I would like to request that if this letter is to be published you withhold my name. I still have friends in Singapore, and might need to visit the country some day, as remote as the possibility may be.

Yours respectfully,

Concerned Reader

Dear *Asimov's*,

I read with great pleasure Mr. Alan Gordon's tale "Digital Music" in your Sep. 94 issue. His sensitivity to the nuances of performance was remarkable, as was his insight into racial (or species) discrimination. However, as a musician myself, I might remark that his closing lines were either a subtle joke I missed or a simple error. A fifteenth, the reach claimed by the alien pianist, *is* two octaves, rather than a note less- a common mistake. Like the missed notes in the aged pianist Jang's recordings, we the audience would wish that no flaws were present; but a piece of art by a human for a human is never perfect. Let us simply welcome Mr. Gordon to SF and invite him to continue in the genre.

Sincerely,

D.M. Wick
Austin, TX

To *Asimov's Science Fiction*,

Robert Silverberg's *Reflections* (Jan. 94) indicates a profound lack of scientific thinking; that there may be seemingly random fluctu-

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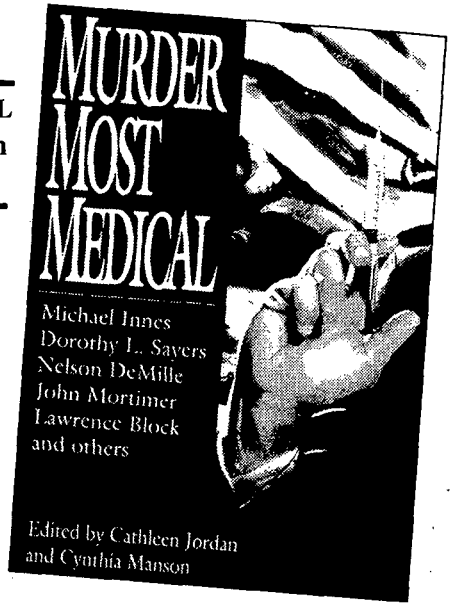
PRESCRIPTION FOR DEATH

MURDER MOST MEDICAL
Edited by Cathleen Jordan &Cynthia Manson



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ations in populations doesn't mean there isn't a rational cause, only that biologists haven't discovered it yet. Amount of food, predators, disease, parasites, pollutants, environmental conditions, etc. can all affect population.

There's probably not an absolute long-term "balance" in nature, because conditions are constantly changing, but to suggest that all our societal problems are a random disequilibrium event that sooner or later will "go away" is outrageously unscientific, in fact totally absurd.

Species have been eliminated due to over-harvesting, and not just the dodo; how about the passenger pigeon? Others have been nearly killed off, such as the American bison, or been severely depleted, such as the elk, the pronghorn, and the grizzly bear, as a direct result of too much killing, not random fluctuations in population. Fortunately, the conservation movement and the development of laws regulating hunting have enabled these species to increase so that they're no longer in danger of extinction, although the grizzly bear population is rather tenuous in the lower forty-eight states.

Species are becoming extinct rather rapidly at the present time, fifty to one hundred species per day is the figure I've heard.

The major problem humans face today is too many people; it's affecting other species, the environment, water supply, trees, soil, etc., negatively. The problem may "go away" by itself, which would mean a whole lot of people will die, or we can act to limit population growth, in which case maybe a whole lot of people won't die, if it's not already too late. It's important to remember that man is part of nature and subject to its laws.

That's why it's imperative that the U.S. severely restrict immigration; the constant influx of aliens is having a very negative effect because it increases the population and costs much more than is produced, since many of these people go on welfare. The U.S. simply can't allow everyone who wants to come here in, or become the refuge for the overflow of the population explosion in the third world.

The world has a population problem, but so, to a lesser extent, does the U.S.; this country has to think of itself first, and the rest of the world second.

Sincerely,

Jason Larix
Missoula, MT

Unto whom it may concern:

Greetings from Victoria A. Smith, a long-time reader of *Analog* and *Asimov's*. The following was sparked by Silverberg's February, 1995, column, "Gresham's Law," in *Asimov's*.

I absorbed the SF books at home along with the rest of the books, but really discovered SF at the golden age of fourteen. Back then, it was entirely possible to have a wide and extensive acquaintance with the entire post-Gernsbach SF

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literature by reading in the local city library, or in the school one during lunch. Most of the money meant to buy me lunch was carefully hoarded until I could walk or be driven to the local used-book shop to buy books I just knew I would reread and reread. Occasionally I would splurge on a new book. However, these were all paperback books; I didn't start being acquired by hardcovers until I was in college. Even in those days, a hardcover would have cost me over two weeks' worth of lunches.

It's even worse today. A high school student would have to save a full four weeks or more to buy one hardbound SF novel. And as more and more of the more-established authors move toward first publishing new work in hardcover, the flood of new paperbacks have become more the province of the much-decried derivative schlock novels or semi-popular series (very popular series have also gone hardbound). Persons, and libraries, with limited budgets can be expected to gravitate toward these paperbacks, buy them, and then look for those authors in future in preference to works of previous writers. Even those of us with more income are much more willing to risk $5.95 than $22.95 on something unknown that may, or may not, be worth reading. Occasionally it is; I got hooked on Bujold and Elliott this way. As this process continues, the works of older authors are checked out less and less at the local libraries, and are finally purged from the shelves. They are no longer available to lure those who are turned off by much of what is being written now and want something else to read.

The reading tastes of a population historically have changed over time along with that population. The works of bestselling authors of fifty years ago are no longer in print today, although they turn up at used book stores from time to time. And who has read any old-fashioned multivolume Victorian novels recently, apart from some scholars? However, I consider that the movement of the SF publishing community toward first publishing in hardcover has greatly accelerated the process within this field. It is profitable in the short run, but works to the detriment of most authors in the long run.

If I could write eloquently, parallels could be drawn to ecological succession, and/or to the biological richness of a natural ecosystem as opposed to the relative paucity of a farm with monoculture fields. Perhaps, though, the whole area of book literature is due to be clear-cut; and book publishers may be simply moving to take quick profits in hardcover before the customer base dries up. Even popular movies and videos are cheaper to view than it is to buy paperbacks, and electronic information is often "free" to the user. It's little wonder that so many of the new SF/F fans are media fen. I hope that what I've seen so far are not the precur-

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sors of the end of book literature, but they may well be.
Sincerely,

Victoria A. Smith
Woodbridge, VA

Dear Mr. Silverberg,

Your editorial, "Gresham's Law Continued," is quite correct. Publishers must follow the money and unfortunately, due to the cost of manufacturing and distributing books, the bad is forcing out the good.

However, technology may have the answer. If a publisher maintained an electronic library of titles, available on a download basis, it would greatly decrease production costs. A publisher could maintain a line of SF classics for a fraction of what it would cost to produce a similar line in paper. Last year Clarionet produced a CD-ROM that had the text of all the Hugo and Nebula nominees. While the format took some getting used to, the concept is sound.

Perhaps, the folks at Bantam Doubleday Dell might take the lead and set up a pilot program to determine the feasibility of such a project. A computer bulletin board could be established with a few select SF classics that are currently out of print, and charge per download. If the project works, it could be expanded. Later, a respected editor, such as yourself, could set up a series of new books. If the books are well received on line, then the publisher might decide it was cost effective to print in paper. The computer revolution is changing many aspects of our lives. Publishing seems ripe for a revolution.
Sincerely,

Gary Port

Dear Sirs:

I greatly enjoyed Robert Reed's "Waging Good" in your January 1995 issue. By snatching bits of time in my hectic schedule, it took me several weeks to read it and I felt I had known the characters a long time. The heroine's dilemma about using a biological weapon became especially significant the day after I finished the story because my hard drive succumbed to a computer virus on Michelangelo's birthday. I did not quite lose my life's work, but it will take me many hours to reconstruct what I can remember. A POX on anyone who would release a predatory virus into the world!

R. Scott Newens
Sacramento, CA

We appreciate comments about the magazine, and would like to hear from more of our readers. Editorial correspondence should include the writer's name and address. Letters can be E-mailed to 71154.662@compuserve.com or posted to Letters to the Editor, *Asimov's*, 1540 Broadway, New York, NY 10036. Letters may be shortened and edited for publication.

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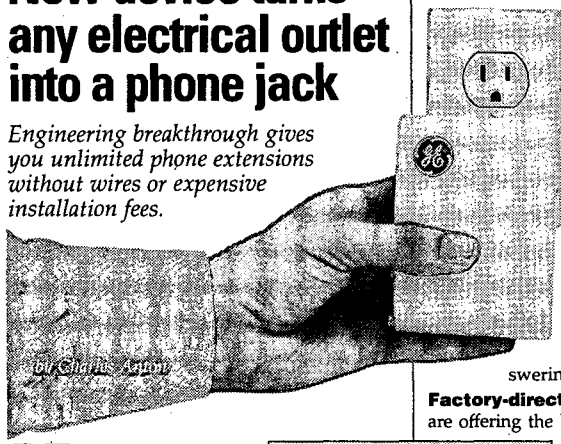
TECHNOLOGY UPDATE

New device turns any electrical outlet into a phone jack

Engineering breakthrough gives you unlimited phone extensions without wires or expensive installation fees.



You don't have to have a teenager to appreciate having extra phone jacks; we all wish we had more jacks in the house. Would you believe adding extra phone jacks in your home could cost up to $158?

Now, a breakthrough device lets you add phone jacks anywhere you have an outlet. Without the hassle, expense, and best of all, without wires.

As simple as plugging in an appliance. The Wireless Phone Jack converts telephone signals to FM signals and broadcasts them over your home's electrical wiring. Just plug the transmitter into a jack and an outlet. Insert a receiver into an outlet anywhere in your home and move your phone to areas that have never had jacks before!

Clear reception anywhere. With the Wireless Phone Jack, your range extends as far as you have outlets: five feet or 500 feet. Its advanced companding noise reduction features guarantee crystal-clear reception, even in large homes.

You can use the Wireless Phone Jack in any outlet in or around your home, even if it's on a different circuit than the transmitter. Each Wireless Phone Jack uses one of 65,000 different security codes: no other receiver will be able to pick up transmissions from your transmitter.

Unlimited extensions, no charge. Ordinary phone lines can usually only handle up to five extensions. But one Wireless Phone Jack transmitter will operate as many receivers as you want. Six, ten, there's no limit. Plus, you will never get a monthly charge for the extra receivers. This breakthrough technology will fulfill all your single-line phone needs. Its digital interface even works with your fax machine, modem and answering machine!

Factory-direct offer. For a limited time, we are offering the Wireless Phone Jack at factory-direct prices. Plus, any Wireless Phone Jack purchase qualifies you for a special discount on a 30-minute long distance phone card—a $30 value.

Try it risk-free. The Wireless Phone Jack is backed by our exclusive 30-day risk-free home trial. If you're not satisfied, return for a full "No Questions Asked" refund. It's also backed by a one-year manufacturer's limited warranty.

Added convenience anyone could appreciate...

- **Few jacks.** *You want more extensions without the expense of calling the phone company.*
- **Bad location.** *You don't have jacks where you need them most, like in the garage or home office.*
- **Renting.** *You want to add extensions, but don't want to pay each time you move.*
- **Other phone devices.** *You want to move your answering machine, modem or fax machine to a more convenient place.*

Wireless Phone Jack transmitter (right) and receiver (left).

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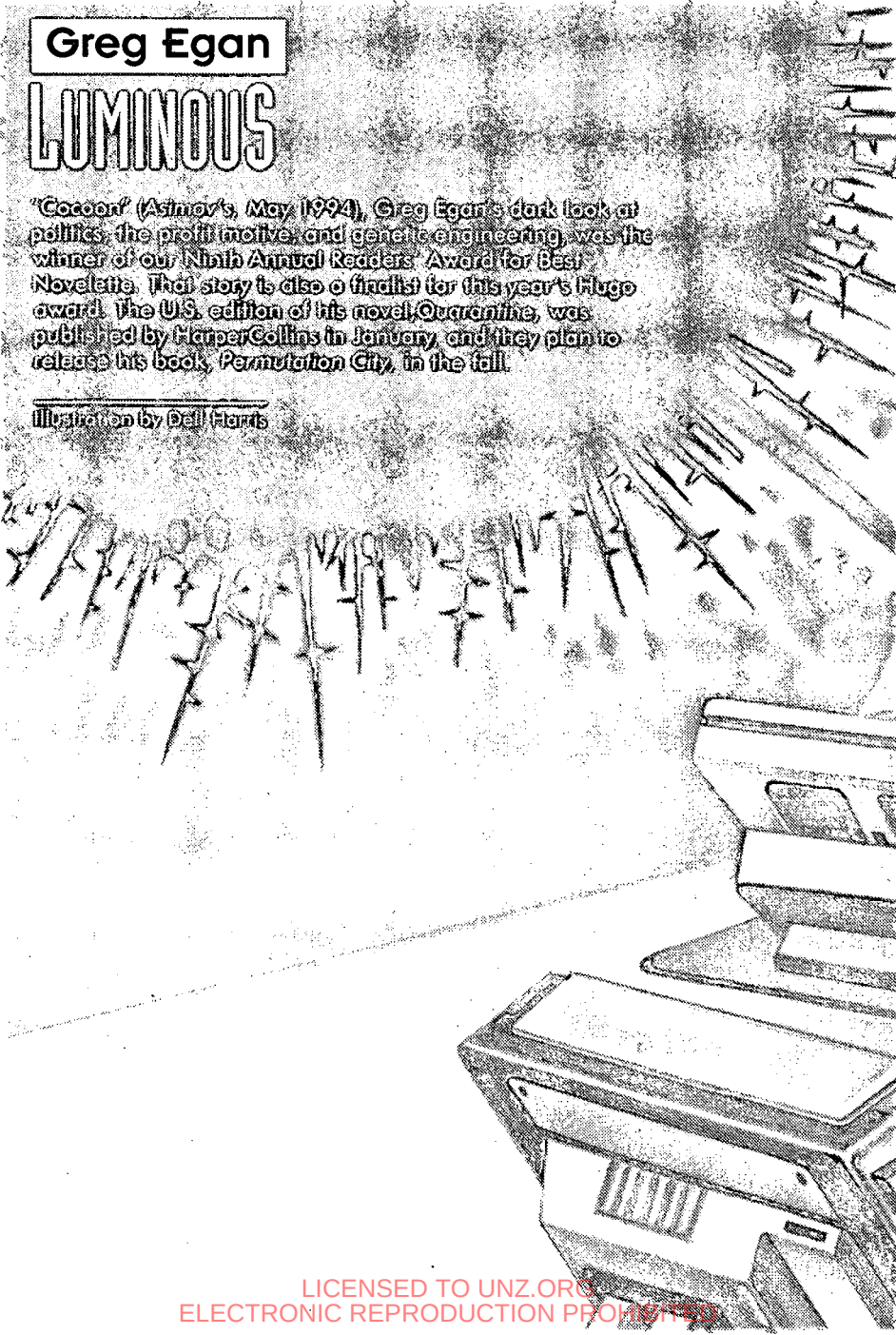
Greg Egan

LUMINOUS

"Cocoon" (*Asimov's*, May 1994), Greg Egan's dark look at politics, the profit motive, and genetic engineering, was the winner of our Ninth Annual Readers' Award for Best Novelette. That story is also a finalist for this year's Hugo award. The U.S. edition of his novel *Quarantine*, was published by HarperCollins in January, and they plan to release his book, *Permutation City*, in the fall.

Illustration by Dell Harris



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I woke, disoriented, unsure why. I knew I was lying on the narrow, lumpy single bed in Room 22 of the Hotel Fleapit; after almost a month in Shanghai, the topography of the mattress was depressingly familiar. But there was something wrong with the way I was lying; every muscle in my neck and shoulders was protesting that nobody could end up in this position from natural causes, however badly they'd slept.

And I could smell blood.

I opened my eyes. A woman I'd never seen before was kneeling over me, slicing into my left tricep with a disposable scalpel. I was lying on my side, facing the wall, one hand and one ankle cuffed to the head and foot of the bed.

Something cut short the surge of visceral panic before I could start stupidly thrashing about, instinctively trying to break free. Maybe an even more ancient response—catatonia in the face of danger—took on the adrenaline and won. Or maybe I just decided that I had no right to panic when I'd been expecting something like this for weeks.

I spoke softly, in English. "What you're in the process of hacking out of me is a necrotrap. One heartbeat without oxygenated blood, and the cargo gets fried."

My amateur surgeon was compact, muscular, with short black hair. Not Chinese: Indonesian, maybe. If she was surprised that I'd woken prematurely, she didn't show it. The gene-tailored hepatocytes I'd acquired in Hanoi could degrade almost anything from morphine to curare; it was a good thing the local anaesthetic was beyond their reach.

Without taking her eyes off her work, she said, "Look on the table next to the bed."

I twisted my head around. She'd set up a loop of plastic tubing full of blood—mine, presumably—circulated and aerated by a small pump. The stem of a large funnel fed into the loop, the intersection controlled by a valve of some kind. Wires trailed from the pump to a sensor taped to the inside of my elbow, synchronizing the artificial pulse with the real. I had no doubt that she could tear the trap from my vein and insert it into this substitute without missing a beat.

I cleared my throat and swallowed. "Not good enough. The trap knows my blood pressure profile exactly. A generic heartbeat won't fool it."

"You're bluffing." But she hesitated, scalpel raised. The hand-held MRI scanner she'd used to find the trap would have revealed its basic configuration, but few fine details of the engineering—and nothing at all about the software.

"I'm telling you the truth." I looked her squarely in the eye, which wasn't easy given our awkward geometry. "It's new, it's Swedish. You anchor it in a vein forty-eight hours in advance, put yourself through a range of typical activities so it can memorize the rhythms . . . then you

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inject the cargo into the trap. Simple, foolproof, effective." Blood trickled down across my chest onto the sheet. I was suddenly very glad that I hadn't buried the thing deeper, after all.

"So how do you retrieve the cargo, yourself?"

"That would be telling."

"Then tell me now, and save yourself some trouble." She rotated the scalpel between thumb and forefinger impatiently. My skin did a cold burn all over, nerve ends jangling, capillaries closing down as blood dived for cover.

I said, "*Trouble* gives me hypertension."

She smiled down at me thinly, conceding the stalemate—then peeled off one stained surgical glove, took out her notepad, and made a call to a medical equipment supplier. She listed some devices which would get around the problem—a blood pressure probe, a more sophisticated pump, a suitable computerized interface—arguing heatedly in fluent Mandarin to extract a promise of a speedy delivery. Then she put down the notepad and placed her ungloved hand on my shoulder.

"You can relax now. We won't have long to wait."

I squirmed, as if angrily shrugging off her hand—and succeeded in getting some blood on her skin. She didn't say a word, but she must have realized at once how careless she'd been; she climbed off the bed and headed for the washbasin, and I heard the water running.

Then she started retching.

I called out cheerfully, "Let me know when you're ready for the antidote."

I heard her approach, and I turned to face her. She was ashen, her face contorted with nausea, eyes and nose streaming mucus and tears.

"Tell me where it is!"

"Uncuff me, and I'll get it for you."

"No! No deals!"

"Fine. Then you'd better start looking, yourself."

She picked up the scalpel and brandished it in my face. "Screw the cargo. *I'll do it!*" She was shivering like a feverish child, uselessly trying to stem the flood from her nostrils with the back of her hand.

I said coldly, "If you cut me again, you'll lose more than the cargo."

She turned away and vomited; it was thin and gray, blood-streaked. The toxin was persuading cells in her stomach lining to commit suicide *en masse*.

"Uncuff me. It'll kill you. It doesn't take long."

She wiped her mouth, steeled herself, made as if to speak—then started puking again. I knew, first-hand, exactly how bad she was feeling. Keeping it down was like trying to swallow a mixture of shit and sulphuric acid. Bringing it up was like evisceration.

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I said, "In thirty seconds, you'll be too weak to help yourself—even if I told you where to look. So if I'm not free. . ."

She produced a gun and a set of keys, uncuffed me, then stood by the foot of the bed, shaking badly but keeping me targeted. I dressed quickly, ignoring her threats, bandaging my arm with a miraculously clean spare sock before putting on a T-shirt and a jacket. She sagged to her knees, still aiming the gun more or less in my direction—but her eyes were swollen half-shut, and brimming with yellow fluid. I thought about trying to disarm her, but it didn't seem worth the risk.

I packed my remaining clothes, then glanced around the room as if I might have left something behind. But everything that really mattered was in my veins; Alison had taught me that that was the only way to travel.

I turned to the burglar. "There is no antidote. But the toxin won't kill you. You'll just wish it would, for the next twelve hours. Goodbye."

As I headed for the door, hairs rose suddenly on the back of my neck. It occurred to me that she might not take me at my word—and might fire a parting shot, believing she had nothing to lose.

Turning the handle, without looking back, I said, "But if you come after me—next time, I'll kill you."

That was a lie, but it seemed to do the trick. As I pulled the door shut behind me, I heard her drop the gun and start vomiting again.

Halfway down the stairs, the euphoria of escape began to give way to a bleaker perspective. If one careless bounty hunter could find me, her more methodical colleagues couldn't be far behind. Industrial Algebra was closing in on us. If Alison didn't gain access to Luminous soon, we'd have no choice but to destroy the map. And even that would only be buying time.

I paid the desk clerk for the room until the next morning, stressing that my companion should not be disturbed, and added a suitable tip to compensate for the mess the cleaners would find. The toxin denatured in air; the bloodstains would be harmless in a matter of hours. The clerk eyed me suspiciously, but said nothing.

Outside, it was a mild, cloudless summer morning. It was barely six o'clock, but Kongjiang Lu was already crowded with pedestrians, cyclists, buses—and a few ostentatious chauffeured limousines, ploughing through the traffic at about ten kph. It looked like the night shift had just emerged from the Intel factory down the road; most of the passing cyclists were wearing the orange, logo-emblazoned overalls.

Two blocks from the hotel I stopped dead, my legs almost giving way beneath me. It wasn't just shock—a delayed reaction, a belated acceptance of how close I'd come to being slaughtered. The burglar's clinical

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violence was chilling enough—but what it implied was infinitely more disturbing.

Industrial Algebra was paying big money, violating international law, taking serious risks with their corporate and personal futures. The arcane abstraction of the defect was being dragged into the world of blood and dust, boardrooms and assassins, power and pragmatism.

And the closest thing to certainty humanity had ever known was in danger of dissolving into quicksand.

It had all started out as a joke. Argument for argument's sake. Alison and her infuriating heresies.

"A mathematical theorem," she'd proclaimed, "only becomes true when a physical system tests it out: when the system's behavior depends in some way on the theorem being *true* or *false*."

It was June 1994. We were sitting in a small paved courtyard, having just emerged yawning and blinking into the winter sunlight from the final lecture in a one-semester course on the philosophy of mathematics—a bit of light relief from the hard grind of the real stuff. We had fifteen minutes to kill before meeting some friends for lunch. It was a social conversation—verging on mild flirtation—nothing more. Maybe there were demented academics lurking in dark crypts somewhere, who held views on the nature of mathematical truth that they were willing to die for. But we were twenty years old, and we *knew* it was all angels on the head of a pin.

I said, "Physical systems don't create mathematics. Nothing *creates* mathematics—it's timeless. All of number theory would still be exactly the same, even if the universe contained nothing but a single electron."

Alison snorted. "Yes, because even *one electron,* plus a space-time to put it in, needs all of quantum mechanics and all of general relativity—and all the mathematical infrastructure they entail. One particle floating in a quantum vacuum needs half the major results of group theory, functional analysis, differential geometry—"

"Okay, okay! I get the point. But if that's the case . . . the events in the first picosecond after the Big Bang would have 'constructed' every last mathematical truth required by *any* physical system, all the way to the Big Crunch. Once you've got the mathematics that underpins the Theory of Everything . . . that's it, that's all you ever need. End of story."

"But it's not. To *apply* the Theory of Everything to a particular system, you still need all the mathematics for dealing with *that system*—which could include results far beyond the mathematics that the TOE itself requires. I mean, fifteen billion years after the Big Bang, someone can still come along and prove, say . . . Fermat's Last Theorem." Andrew

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Wiles at Princeton had recently announced a proof of the famous conjecture, although his work was still being scrutinized by his colleagues, and the final verdict wasn't yet in. "Physics never needed *that* before."

I protested, "What do you mean, 'before'? Fermat's Last Theorem never has—and never will—have anything to do with any branch of physics."

Alison smiled sneakily. "No *branch*—no. But only because the class of physical systems whose behavior depends on it is so ludicrously specific: the brains of mathematicians who are trying to validate the Wiles proof.

"Think about it. Once you start trying to prove a theorem, then even if the mathematics is so 'pure' that it has no relevance to any other object in the universe . . . you've just made it relevant to *yourself*. You have to choose *some* physical process to test the theorem—whether you use a computer, or a pen and paper . . . or just close your eyes and shuffle *neurotransmitters*. There's no such thing as a proof that doesn't rely on physical events—and whether they're inside or outside your skull doesn't make them any less real."

"Fair enough," I conceded warily. "But that doesn't mean—"

"And maybe Andrew Wiles's brain—and body, and notepaper—comprised the first physical system whose behavior depended on the theorem being true or false. But I don't think human actions have any special role . . . and if some swarm of quarks had done the same thing blindly, fifteen billion years before—executed some purely random interaction that just happened to test the conjecture in some way—then *those quarks* would have constructed FLT long before Wiles. We'll never know."

I opened my mouth to complain that no swarm of quarks could have tested the infinite number of cases encompassed by the theorem—but I caught myself just in time. That was true—but it hadn't stopped Wiles. A finite sequence of logical steps linked the axioms of number theory—which included some simple generalities about *all* numbers—to Fermat's own sweeping assertion. And if a mathematician could test those logical steps by manipulating a finite number of physical objects for a finite amount of time—whether they were pencil marks on paper, or neurotransmitters in his or her brain—then all kinds of physical systems could, in theory, mimic the structure of the proof . . . with or without any awareness of what it was they were "proving."

I leant back on the bench and mimed tearing out hair. "If I wasn't a die-hard Platonist before, you're forcing me into it! Fermat's Last Theorem didn't *need* to be proved by anyone—or stumbled on by any random swarm of quarks. If it's true, it was always true. Everything implied by a given set of axioms is logically connected to them, timelessly, eternally . . . even if the links couldn't be traced by people—or quarks—in the lifetime of the universe."

Alison was having none of this; every mention of *timeless and eternal*

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truths brought a faint smile to the corner of her mouth, as if I was affirming my belief in Santa Claus. She said, "So who, or what, pushed the consequences of 'There exists an entity called zero' and 'Every X has a successor', *et cetera,* all the way to Fermat's Last Theorem and beyond, before the universe had a chance to test out any of it?"

I stood my ground. "What's joined by logic is just . . . *joined.* Nothing has to happen—consequences don't have to be 'pushed' into existence by anyone, or anything. Or do you imagine that the first events after the Big Bang, the first wild jitters of the quark-gluon plasma, stopped to fill in all the logical gaps? You think the quarks reasoned: well, so far we've done A and B and C—but now we mustn't do D, because D would be logically inconsistent with the other mathematics we've 'invented' so far . . . even if it would take a five-hundred-thousand-page proof to spell out the inconsistency?"

Alison thought it over. "No. But what if event D took place, regardless? What if the mathematics it implied *was* logically inconsistent with the rest—but it went ahead and happened anyway . . . because the universe was too young to have computed the fact that there was any discrepancy?"

I must have sat and stared at her, open-mouthed, for about ten seconds. Given the orthodoxies we'd spent the last two-and-a-half years absorbing, this was a seriously outrageous statement.

"You're claiming that . . . *mathematics* might be strewn with primordial defects in consistency? Like space might be strewn with cosmic strings?"

"Exactly." She stared back at me, feigning nonchalance. "If space-time doesn't join up with itself smoothly, everywhere . . . why should mathematical logic?"

I almost choked. "Where do I begin? What happens—now—when some physical system tries to link theorems across the defect? If theorem D has been rendered 'true' by some over-eager quarks, what happens when we program a computer to disprove it? When the software goes through all the logical steps that link A, B, and C—which the quarks have also made true—to the contradiction, the dreaded not-D . . . does it succeed, or doesn't it?"

Alison side-stepped the question. "Suppose they're both true: D and not-D. Sounds like the end of mathematics, doesn't it? The whole system falls apart, instantly. From D and not-D together you can prove anything you like: one equals zero, day equals night. But that's just the boring-old-fart Platonist view—where logic travels faster than light, and computation takes no time at all. People live with omega-inconsistent theories, don't they?"

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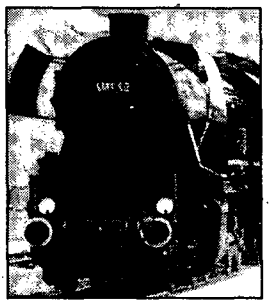

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arithmetic, based on axioms that "almost" contradicted each other—their saving grace being that the contradictions could only show up in "infinitely long proofs" (which were formally disallowed, quite apart from being physically impossible). That was perfectly respectable modern mathematics—but Alison seemed prepared to replace "infinitely long" with just plain "long"—as if the difference hardly mattered, in practice.

I said, "Let me get this straight. What you're talking about is taking ordinary arithmetic—no weird counter-intuitive axioms, just the stuff every ten-year-old *knows* is true—and proving that it's inconsistent, in a finite number of steps?"

She nodded blithely. "Finite, but large. So the contradiction would rarely have any physical manifestation—it would be 'computationally distant' from everyday calculations, and everyday physical events. I mean . . . one cosmic string, somewhere out there, doesn't destroy the universe, does it? It does no harm to anyone."

I laughed drily. "So long as you don't get too close. So long as you don't tow it back to the solar system and let it twitch around slicing up planets."

"Exactly."

I glanced at my watch. "Time to come down to Earth, I think. You know we're meeting Julia and Ramesh—?"

Alison sighed theatrically. "I know, I know. And this would bore them witless, poor things—so the subject's closed, I promise." She added wickedly, "Humanities students are so *myopic.*"

We set off across the tranquil leafy campus. Alison kept her word, and we walked in silence; carrying on the argument up to the last minute would have made it even harder to avoid the topic once we were in polite company.

Half-way to the cafeteria, though, I couldn't help myself.

"If someone ever *did* program a computer to follow a chain of inferences across the defect . . . what do you claim would actually happen? When the end result of all those simple, trustworthy logical steps finally popped up on the screen—which group of primordial quarks would win the battle? And please don't tell me that the whole computer just conveniently vanishes."

Alison smiled, tongue-in-cheek at last. "Get real, Bruno. How can you expect me to answer that, when the mathematics needed to predict the result doesn't even *exist* yet? Nothing I could say would be true or false—until someone's gone ahead and done the experiment."

I spent most of the day trying to convince myself that I wasn't being followed by some accomplice (or rival) of the surgeon, who might have

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been lurking outside the hotel. There was something disturbingly Kafkaesque about trying to lose a tail who might or might not have been real: no particular face I could search for in the crowd, just the abstract idea of a pursuer. It was too late to think about plastic surgery to make me look Han Chinese—Alison had raised this as a serious suggestion, back in Vietnam—but Shanghai had over a million foreign residents, so with care even an Anglophone of Italian descent should have been able to vanish.

Whether or not I was up to the task was another matter.

I tried joining the ant-trails of the tourists, following the path of least resistance from the insane crush of the Yuyuan Bazaar (where racks bursting with ten-cent watch-PCs, mood-sensitive contact lenses, and the latest karaoke vocal implants, sat beside bamboo cages of live ducks and pigeons) to the one-time residence of Sun Yatsen (whose personality cult was currently undergoing a mini-series-led revival on Star TV, advertised on ten thousand buses and ten times as many T-shirts). From the tomb of the writer Lu Xun ("Always think and study . . . visit the general then visit the victims, see the realities of your time with open eyes"—no prime time for *him*) to the Hongkou McDonald's (where they were giving away small plastic Andy Warhol figurines, for reasons I couldn't fathom). I mimed leisurely window-shopping between the shrines, but kept my body language sufficiently unfriendly to deter even the loneliest Westerner from attempting to strike up a conversation. If foreigners were unremarkable in most of the city, they were positively eye-glazing here—even to each other—and I did my best to offer no one the slightest reason to remember me.

Along the way I checked for messages from Alison, but there were none. I left five of my own, tiny abstract chalk marks on bus shelters and park benches—all slightly different, but all saying the same thing: CLOSE BRUSH, BUT SAFE NOW. MOVING ON.

By early evening, I'd done all I could to throw off my hypothetical shadow, so I headed for the next hotel on our agreed but unwritten list. The last time we'd met face-to-face, in Hanoi, I'd mocked all of Alison's elaborate preparations. Now I was beginning to wish that I'd begged her to extend our secret language to cover more extreme contingencies. FATALLY WOUNDED. BETRAYED YOU UNDER TORTURE. REALITY DECAYING. OTHERWISE FINE.

The hotel on Huaihai Zhonglu was a step up from the last one, but not quite classy enough to refuse payment in cash. The desk clerk made polite small-talk, and I lied as smoothly as I could about my plans to spend a week sight-seeing before heading for Beijing. The bellperson smirked when I tipped him too much—and I sat on my bed for five minutes afterward, wondering what significance to read into *that*.

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I struggled to regain a sense of proportion. Industrial Algebra *could* have bribed every single hotel employee in Shanghai to be on the lookout for us—but that was a bit like saying that, in theory, they could have duplicated our entire twelve-year search for defects, and not bothered to pursue us at all. There was no question that they wanted what we had, badly—but what could they actually do about it? Go to a merchant bank (or the Mafia, or a Triad) for finance? That might have worked if the cargo had been a stray kilogram of plutonium, or a valuable gene sequence—but only a few hundred thousand people on the planet would be capable of understanding what the defect *was*, even in theory. Only a fraction of that number would believe that such a thing could really exist . . . and even fewer would be both wealthy and immoral enough to invest in the business of exploiting it.

The stakes appeared to be infinitely high—but that didn't make the players omnipotent.

Not yet.

I changed the dressing on my arm, from sock to handkerchief, but the incision was deeper than I'd realized, and it was still bleeding thinly. I left the hotel—and found exactly what I needed in a twenty-four-hour emporium just ten minutes away. Surgical grade tissue repair cream: a mixture of collagen-based adhesive, antiseptic, and growth factors. The emporium wasn't even a pharmaceuticals outlet—it just had aisle after aisle packed with all kinds of unrelated odds and ends, laid out beneath the unblinking blue-white ceiling panels. Canned food, PVC plumbing fixtures, traditional medicines, rat contraceptives, video ROMS. It was a random cornucopia, an almost organic diversity—as if the products had all just grown on the shelves from whatever spores the wind had happened to blow in.

I headed back to the hotel, pushing my way through the relentless crowds, half seduced and half sickened by the odors of cooking, dazed by the endless vista of holograms and neon in a language I barely understood. Fifteen minutes later, reeling from the noise and humidity, I realized that I was lost.

I stopped on a street corner and tried to get my bearings. Shanghai stretched out around me, dense and lavish, sensual and ruthless—a Darwinian economic simulation self-organized to the brink of catastrophe. The Amazon of commerce: this city of sixteen million had more industry of every kind, more exporters and importers, more wholesalers and retailers, traders and re-sellers and re-cyclers and scavengers, more billionaires and more beggars, than most nations on the planet.

Not to mention more computing power.

China itself was reaching the cusp of its decades-long transition from brutal totalitarian communism to brutal totalitarian capitalism: a slow

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seamless morph from Mao to Pinochet set to the enthusiastic applause of its trading partners and the international financial agencies. There'd been no need for a counter-revolution—just layer after layer of carefully reasoned Newspeak to pave the way from previous doctrine to the stunningly obvious conclusion that private property, a thriving middle class, and a few trillion dollars worth of foreign investment were exactly what the Party had been aiming for all along.

The apparatus of the police state remained as essential as ever. Trade unionists with decadent bourgeois ideas about uncompetitive wages, journalists with counter-revolutionary notions of exposing corruption and nepotism, and any number of subversive political activists spreading destabilizing propaganda about the fantasy of free elections, all needed to be kept in check.

In a way, Luminous was a product of this strange transition from communism to not-communism in a thousand tiny steps. No one else, not even the U.S. defense research establishment, possessed a single machine with so much power. The rest of the world had succumbed long ago to networking, giving up their imposing supercomputers with their difficult architecture and customized chips for a few hundred of the latest mass-produced work stations. In fact, the biggest computing feats of the twenty-first century had all been farmed out over the Internet to thousands of volunteers, to run on their machines whenever the processors would otherwise be idle. That was how Alison and I had mapped the defect in the first place: seven thousand amateur mathematicians had shared the joke, for twelve years.

But now the net was the very opposite of what we needed—and only Luminous could take its place. And though only the People's Republic could have paid for it, and only the People's Institute for Advanced Optical Engineering could have built it . . . only Shanghai's QIPS Corporation could have sold time on it to the world—while it was still being used to model hydrogen bomb shock waves, pilotless fighter jets, and exotic antisatellite weapons.

I finally decoded the street signs, and realized what I'd done: I'd turned the wrong way coming out of the emporium, it was as simple as that.

I retraced my steps, and I was soon back on familiar territory.

When I opened the door of my room, Alison was sitting on the bed.

I said, "What is it with locks in this city?"

We embraced, briefly. We'd been lovers, once—but that was long over. And we'd been friends for years afterward—but I wasn't sure if that was still the right word. Our whole relationship now was too functional, too spartan. Everything revolved around the defect, now.

She said, "I got your message. What happened?"

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I described the morning's events.

"You know what you should have done?"

That stung. "I'm still here, aren't I? The cargo's still safe."

"You should have killed her, Bruno."

I laughed. Alison gazed back at me placidly, and I looked away. I didn't know if she was serious—and I didn't much want to find out.

She helped me apply the repair cream. My toxin was no threat to her—we'd both installed exactly the same symbionts, the same genotype from the same unique batch in Hanoi. But it was strange to feel her bare fingers on my broken skin, knowing that no one else on the planet could touch me like this, with impunity.

Ditto for sex, but I didn't want to dwell on that.

As I slipped on my jacket, she said, "So guess what we're doing at five A.M. tomorrow?"

"Don't tell me: I fly to Helsinki, and you fly to Cape Town. Just to throw them off the scent."

That got a faint smile. "Wrong. We're meeting Yuen at the Institute—and spending half an hour on Luminous."

"*You* are brilliant." I bent over and kissed her on the forehead. "But I always knew you'd pull it off."

And I should have been delirious—but the truth was, my guts were churning; I felt almost as trapped as I had upon waking cuffed to the bed. If Luminous had remained beyond our reach (as it should have, since we couldn't afford to hire it for a microsecond at the going rate) we would have had no choice but to destroy all the data, and hope for the best. Industrial Algebra had no doubt dredged up a few thousand fragments of the original Internet calculations—but it was clear that, although they knew exactly what we'd found, they still had no idea where we'd found it. If they'd been forced to start their own random search—constrained by the need for secrecy to their own private hardware—it might have taken them centuries.

There was no question now, though, of backing away and leaving everything to chance. We were going to have to confront the defect in person.

"How much did you have to tell him?"

"Everything." She walked over to the washbasin, removed her shirt, and began wiping the sweat from her neck and torso with a washcloth. "Short of handing over the map. I showed him the search algorithms and their results, and all the programs we'll need to run on Luminous—all stripped of specific parameter values, but enough for him to validate the techniques. He wanted to see direct evidence of the defect, of course, but I held out on that."

"And how much did he believe?"

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"He's reserved judgment. The deal is, we get half an hour's unimpeded access—but he gets to observe everything we do."

I nodded, as if my opinion made any difference, as if we had any choice. Yuen Ting-fu had been Alison's supervisor for her Ph.D. on advanced applications of ring theory, when she'd studied at Fu-tan University in the late nineties. Now he was one of the world's leading cryptographers, working as a consultant to the military, the security services, and a dozen international corporations. Alison had once told me that she'd heard he'd found a polynomial-time algorithm for factoring the product of two primes; that had never been officially confirmed . . . but such was the power of his reputation that almost everyone on the planet had stopped using the old RSA encryption method as the rumor had spread. No doubt time on Luminous was his for the asking—but that didn't mean he couldn't still be imprisoned for twenty years for giving it away to the wrong people, for the wrong reasons.

I said, "And you trust him? He may not believe in the defect now, but once he's convinced—"

"He'll want exactly what *we* want. I'm sure of that."

"Okay. But are you sure IA won't be watching, too? If they've worked out why we're here, and they've bribed someone—"

Alison cut me off impatiently. "There are still a few things you can't buy in this city. Spying on a military machine like Luminous would be suicidal. No one would risk it."

"What about spying on unauthorized projects being run on a military machine? Maybe the crimes cancel out, and you end up a hero."

She approached me, half naked, drying her face on my towel. "We'd better hope not."

I laughed suddenly. "You know what I like most about Luminous? They're not really letting Exxon and McDonnell-Douglas use the same machine as the People's Liberation Army. Because the whole computer vanishes every time they pull the plug. There's no paradox at all, if you look at it that way."

Alison insisted that we stand guard in shifts. Twenty-four hours earlier, I might have made a joke of it; now I reluctantly accepted the revolver she offered me, and sat watching the door in the neon-tinged darkness while she went out like a light.

The hotel had been quiet for most of the evening—but now it came to life. There were footsteps in the corridor every five minutes—and rats in the walls, foraging and screwing and probably giving birth. Police sirens wailed in the distance; a couple screamed at each other in the street below. I'd read somewhere that Shanghai was now the murder capital of the world—but was that *per capita,* or in absolute numbers?

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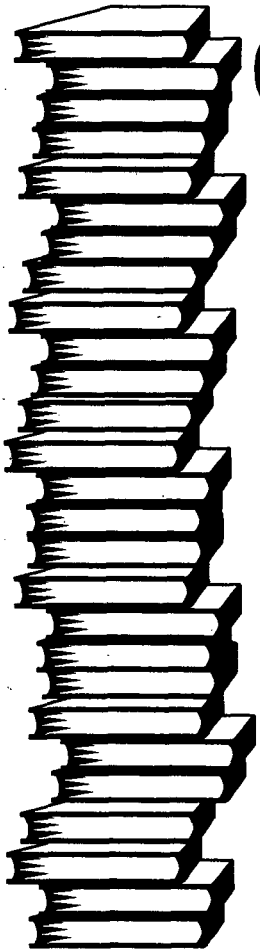

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After an hour, I was so jumpy that it was a miracle I hadn't blown my foot off. I unloaded the gun, then sat playing Russian roulette with the empty barrel. In spite of everything, I still wasn't ready to put a bullet in anyone's brain for the sake of defending the axioms of number theory.

Industrial Algebra had approached us in a perfectly civilized fashion, at first. They were a small but aggressive UK-based company, designing specialized high-performance computing hardware for industrial and military applications. That they'd heard about the search was no great surprise—it had been openly discussed on the Internet for years, and even joked about in serious mathematical journals—but it seemed an odd coincidence when they made contact with us just days after Alison had sent me a private message from Zürich mentioning the latest "promising" result. After half a dozen false alarms—all due to bugs and glitches—we'd stopped broadcasting the news of every unconfirmed find to the people who were donating runtime to the project, let alone any wider circle. We were afraid that if we cried wolf one more time, half our collaborators would get so annoyed that they'd withdraw their support.

IA had offered us a generous slab of computing power on the company's private network—several orders of magnitude more than we received from any other donor. *Why?* The answer kept changing. Their deep respect for pure mathematics . . . their wide-eyed fun-loving attitude to life . . . their desire to be seen to be sponsoring a project so wild and hip and unlikely to succeed that it made SETI look like a staid blue-chip investment. It was—they'd finally "conceded"—a desperate bid to soften their corporate image, after years of bad press for what certain unsavory governments did with their really rather nice smart bombs.

We'd politely declined. They'd offered us highly paid consulting jobs. Bemused, we'd suspended all net-based calculations—and started encrypting our mail with a simple but highly effective algorithm Alison had picked up from Yuen.

Alison had been collating the results of the search on her own work station at her current home in Zürich, while I'd helped coordinate things from Sydney. No doubt IA had been eavesdropping on the incoming data, but they'd clearly started too late to gather the information needed to create their own map; each fragment of the calculations meant little in isolation. But when the work station was stolen (all the files were encrypted, it would have told them nothing) we'd finally been forced to ask ourselves: *If the defect turns out to be genuine, if the joke is no joke . . . then exactly what's at stake? How much money? How much power?*

On June 7, 2006, we met in a sweltering, crowded square in Hanoi. Alison wasted no time. She was carrying a backup of the data from the

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stolen work station in her notepad—and she solemnly proclaimed that, this time, the defect was real.

The notepad's tiny processor would have taken centuries to repeat the long random trawling of the space of arithmetic statements that had been carried out on the net—but, led straight to the relevant computations, it could confirm the existence of the defect in a matter of minutes.

The process began with Statement S. Statement S was an assertion about some ludicrously huge numbers—but it wasn't mathematically sophisticated or contentious in any way. There were no claims here about infinite sets, no propositions concerning "every integer." It merely stated that a certain (elaborate) calculation performed on certain (very large) whole numbers led to a certain result—in essence, it was no different from something like "5+3 = 4×2". It might have taken me ten years to check it with a pen and paper—but I could have carried out the task with nothing but elementary school mathematics and a great deal of patience. A statement like this could not be undecidable; it had to be either true or false.

The notepad decided it was true.

Then the notepad took Statement S . . . and in four hundred and twenty-three simple, impeccably logical steps, used it to prove not-S.

I repeated the calculations on my own notepad—using a different software package. The result was exactly the same. I gazed at the screen, trying to concoct a plausible reason why two different machines running two different programs could have failed in identical ways. There'd certainly been cases in the past of a single misprinted algorithm in a computing textbook spawning a thousand dud programs. But the operations here were too simple, too basic.

Which left only two possibilities. Either conventional arithmetic was intrinsically flawed, and the whole Platonic ideal of the natural numbers was ultimately self-contradictory . . . or Alison was right, and an alternative arithmetic had come to hold sway in a "computationally remote" region, billions of years ago.

I was badly shaken—but my first reaction was to try to play down the significance of the result. "The numbers being manipulated here are greater than the volume of the observable universe, measured in cubic Planck lengths. If IA were hoping to use this on their foreign exchange transactions, I think they've made a slight error of scale." Even as I spoke, though, I knew it wasn't that simple. The raw numbers might have been trans-astronomical—but it was the mere 1024 bits of the notepad's binary representations that had actually, physically misbehaved. Every truth in mathematics was encoded, reflected, in countless other forms. If a paradox like this—which at first glance sounded like a dispute about numbers too large to apply even to the most grandiose cosmological

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discussions—could affect the behavior of a five-gram silicon chip, then there could easily be a billion other systems on the planet at risk of being touched by the very same flaw.

But there was worse to come.

The theory was, we'd located part of the boundary between two incompatible systems of mathematics—both of which were *physically true,* in their respective domains. Any sequence of deductions that stayed entirely on one side of the defect—whether it was the "near side," where conventional arithmetic applied, or the "far side," where the alternative took over—would be free from contradictions. But any sequence that crossed the border would give rise to absurdities—hence S could lead to not-S.

So, by examining a large number of chains of inference, some of which turned out to be self-contradictory and some not, it should have been possible to map the area around the defect precisely—to assign every statement to one system or the other.

Alison displayed the first map she'd made. It portrayed an elaborately crenulated fractal border, rather like the boundary between two microscopic ice crystals—as if the two systems had been diffusing out at random from different starting points, and then collided, blocking each other's way. By now, I was almost prepared to believe that I really was staring at a snapshot of the creation of mathematics—a fossil of primordial attempts to define the difference between truth and falsehood.

Then she produced a second map of the same set of statements, and overlaid the two. The defect, the border, had shifted—advancing in some places, retreating in others.

My blood went cold. *"That* has got to be a bug in the software."

"It's not."

I inhaled deeply, looking around the square—as if the heedless crowd of tourists and hawkers, shoppers and executives, might offer some simple "human" truth more resilient than mere arithmetic. But all I could think of was *1984:* Winston Smith, finally beaten into submission, abandoning every touchstone of reason by conceding that *two and two make five.*

I said, "Okay. Go on."

"In the early universe, some physical system must have tested out mathematics that was isolated, cut off from all the established results—leaving it free to decide the outcome at random. That's how the defect arose. But by now, *all* the mathematics in this region has been tested, all the gaps have been filled in. When a physical system tests a theorem on the near side, not only has it been tested a billion times before—but all the *logically adjacent* statements around it have been decided, and they imply the correct result in a single step."

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"You mean . . . peer pressure from the neighbors? No inconsistencies allowed, you have to conform? If x-1 = y-1, and x+1 = y+1, then x is left with no choice but to equal y . . . because there's nothing 'nearby' to support the alternative?"

"Exactly. Truth is determined locally. And it's the same, deep into the far side. The alternative mathematics has dominated there, and every test takes place surrounded by established theorems that reinforce each other, and the 'correct'—non-standard—result."

"At the border, though—"

"At the border, every theorem you test is getting contradictory advice. From one neighbor, x-1 = y-1 . . . but from another, x+1 = y+2. And the topology of the border is so complex that a near-side theorem can have more far-side neighbors than near-side ones—and vice versa.

"So the truth at the border isn't fixed, even now. Both regions can still advance or retreat—*it all depends on the order in which the theorems are tested.* If a solidly near-side theorem is tested first, and it lends support to a more vulnerable neighbor, that can guarantee that they both stay near-side." She ran a brief animation that demonstrated the effect. "But if the order is reversed, the weaker one *will* fall."

I watched, light-headed. Obscure—but supposedly eternal—truths were tumbling like chess pieces. "And . . . you think that physical processes going on *right now*—chance molecular events that keep inadvertently testing and re-testing different theories along the border—cause each side to gain and lose territory?"

"Yes."

"So there's been a kind of . . . random tide washing back and forth between the two kinds of mathematics, for the past few billion years?" I laughed uneasily, and did some rough calculations in my head. "The expectation value for a random walk is the square root of N. I don't think we have anything to worry about. The tide isn't going to wash over any useful arithmetic in the lifetime of the universe."

Alison smiled humorlessly, and held up the notepad again. "The tide? No. But it's the easiest thing in the world to dig a channel. To bias the random flow." She ran an animation of a sequence of tests that forced the far-side system to retreat across a small front—exploiting a "beachhead" formed by chance, and then pushing on to undermine a succession of theorems. "Industrial Algebra, though—I imagine—would be more interested in the reverse. Establishing a whole network of narrow channels of non-standard mathematics running deep into the realm of conventional arithmetic—which they could then deploy against theorems with practical consequences."

I fell silent, trying to imagine tendrils of contradictory arithmetic reaching down into the everyday world. No doubt IA would aim for surgical precision—hoping to earn themselves a few billion dollars by corrupting the

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specific mathematics underlying certain financial transactions. But the ramifications would be impossible to predict—or control. There'd be no way to limit the effect, spatially—they could target certain mathematical truths, but they couldn't confine the change to any one location. *A few billion dollars, a few billion neurons, a few billion stars . . . a few billion people.* Once the basic rules of counting were undermined, the most solid and distinct objects could be rendered as uncertain as swirls of fog. This was not a power I would have entrusted to a cross between Mother Theresa and Carl Friedrich Gauss.

"So what do we do? Erase the map—and just hope that IA never find the defect for themselves?"

"No." Alison seemed remarkably calm—but then, her own long-cherished philosophy had just been confirmed, not razed to the ground—and she'd had time on the flight from Zürich to think through all the *Realmathematik*. "There's only one way to be sure that they can never use this. We have to strike first. We have to get hold of enough computing power to map the entire defect. And then we either iron the border flat, so it *can't* move—if you amputate all the pincers, there can be no pincer movements. Or—better yet, if we can get the resources—we push the border in, from all directions, and shrink the far-side system down to nothing."

I hesitated. "All we've mapped so far is a tiny fragment of the defect. We don't know how large the far side could be. Except that it can't be small—or the random fluctuations would have swallowed it long ago. And it *could* go on forever; it could be infinite, for all we know."

Alison gave me a strange look. "You still don't get it, do you, Bruno? You're still thinking like a Platonist. The universe has only been around for fifteen billion years. It hasn't had time to create infinities. The far side *can't* go on forever—because somewhere beyond the defect, there are theorems that don't belong to *any* system. Theorems that have never been touched, never been tested, never been rendered true or false.

"And if we have to reach beyond the existing mathematics of the universe in order to surround the far side . . . then that's what we'll do. There's no reason why it shouldn't be possible—just so long as we get there first."

When Alison took my place, at one in the morning, I was certain I wouldn't get any sleep. When she shook me awake three hours later, I still felt like I hadn't.

I used my notepad to send a priming code to the data caches buried in our veins, and then we stood together side-by-side, left-shoulder-to-right-shoulder. The two chips recognized each other's magnetic and electrical signatures, interrogated each other to be sure—and then began

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radiating lower power microwaves. Alison's notepad picked up the transmission, and merged the two complementary data streams. The result was still heavily encrypted—but after all the precautions we'd taken so far, shifting the map into a hand-held computer felt about as secure as tattooing it onto our foreheads.

A taxi was waiting for us downstairs. The People's Institute for Advanced Optical Engineering was in Minhang, a sprawling technology park some thirty kilometers south of the city center. We rode in silence through the gray predawn light, past the giant ugly tower blocks thrown up by the landlords of the new millennium, riding out the fever as the necrotraps and their cargo dissolved into our blood.

As the taxi turned into an avenue lined with biotech and aerospace companies, Alison said, "If anyone asks, we're Ph.D. students of Yuen's, testing a conjecture in algebraic topology."

"Now you tell me. I don't suppose you have any specific conjecture in mind? What if they ask us to elaborate?"

"On *algebraic topology?* At five o'clock in the morning?"

The Institute building was unimposing—sprawling black ceramic, three stories high—but there was a five-meter electrified fence, and the entrance was guarded by two armed soldiers. We paid the taxi driver and approached on foot. Yuen had supplied us with visitor's passes—complete with photographs and fingerprints. The names were our own; there was no point indulging in unnecessary deception. If we were caught out, pseudonyms would only make things worse.

The soldiers checked the passes, then led us through an MRI scanner. I forced myself to breathe calmly as we waited for the results; in theory, the scanner could have picked up our symbionts' foreign proteins, lingering breakdown products from the necrotraps, and a dozen other suspicious trace chemicals. But it all came down to a question of what they were looking for; magnetic resonance spectra for billions of molecules had been catalogued—but no machine could hunt for all of them at once.

One of the soldiers took me aside and asked me to remove my jacket. I fought down a wave of panic—and then struggled not to overcompensate: if I'd had nothing to hide, I would still have been nervous. He prodded the bandage on my upper arm; the surrounding skin was still red and inflamed.

"What's this?"

"I had a cyst there. My doctor cut it out, this morning."

He eyed me suspiciously, and peeled back the adhesive bandage—with ungloved hands. I couldn't bring myself to look; the repair cream should have sealed the wound completely—at worst there should have been old, dried blood—but I could *feel* a faint liquid warmth along the line of the incision.

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The soldier laughed at my gritted teeth, and waved me away with an expression of distaste. I had no idea what he thought I might have been hiding—but I saw fresh red droplets beading the skin before I closed the bandage.

Yuen Ting-fu was waiting for us in the lobby. He was a slender, fit-looking man in his late sixties, casually dressed in denim. I let Alison do all the talking: apologizing for our lack of punctuality (although we weren't actually late), and thanking him effusively for granting us this precious opportunity to pursue our unworthy research. I stood back and tried to appear suitably deferential. Four soldiers looked on impassively; they didn't seem to find all this groveling excessive. And no doubt I would have been giddy with awe, if I really had been a student granted time here for some run-of-the-mill thesis.

We followed Yuen as he strode briskly through a second checkpoint and scanner (this time, no one stopped us) then down a long corridor with a soft gray vinyl floor. We passed a couple of white-coated technicians, but they barely gave us a second glance. I'd had visions of a pair of obvious foreigners attracting as much attention here as we would have wandering through a military base—but that was absurd. Half the runtime on Luminous was sold to foreign corporations—and because the machine was most definitely *not* linked to any communications network, commercial users had to come here in person. Just how often Yuen wangled free time for his students—whatever their nationality—was another question, but if he believed it was the best cover for us, I was in no position to argue. I only hoped he'd planted a seamless trail of reassuring lies in the university records and beyond, in case the Institute administration decided to check up on us in any detail.

We stopped in at the operations room, and Yuen chatted with the technicians. Banks of flatscreens covered one wall, displaying status histograms and engineering schematics. It looked like the control center for a small particle accelerator—which wasn't far from the truth.

Luminous was, literally, a computer made of light. It came into existence when a vacuum chamber, a cube five meters wide, was filled with an elaborate standing wave created by three vast arrays of high-powered lasers. A coherent electron beam was fed into the chamber—and just as a finely machined grating built of solid matter could diffract a beam of light, a sufficiently ordered (and sufficiently intense) configuration of light could diffract a beam of matter.

The electrons were redirected from layer to layer of the light cube, recombining and interfering at each stage, every change in their phase and intensity performing an appropriate computation—and the whole system could be reconfigured, nanosecond by nanosecond, into complex new "hardware" optimized for the calculations at hand. The auxilliary

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supercomputers controlling the laser arrays could design, and then instantly build, the perfect machine of light to carry out each particular stage of any program.

It was, of course, fiendishly difficult technology, incredibly expensive and temperamental. The chance of ever putting it on the desktops of Tetris-playing accountants was zero, so nobody in the West had bothered to pursue it.

And this cumbersome, unwieldy, impractical machine ran faster than every piece of silicon hanging off the Internet, combined.

We continued on to the programming room. At first glance, it might have been the computing center in a small primary school, with half a dozen perfectly ordinary work stations sitting on white formica tables. They just happened to be the only six in the world that were hooked up to Luminous.

We were alone with Yuen now—and Alison cut the protocol and just glanced briefly in his direction for approval, before hurriedly linking her notepad to one of the work stations and uploading the encrypted map. As she typed in the instructions to decode the file, all the images running through my head of what would have happened if I'd poisoned the soldier at the gate receded into insignificance. We now had half an hour to banish the defect—and we still had no idea how far it extended.

Yuen turned to me; the tension on his face betrayed his own anxieties, but he mused philosophically, "If our arithmetic seems to fail for these large numbers—does it mean the mathematics, the ideal, is really flawed and mutable—or only that the behavior of matter always falls short of the ideal?"

I replied, "If every class of physical objects 'falls short' in exactly the same way—whether it's boulders or electrons or abacus beads . . . what is it that their common behavior is obeying—or defining—if not the mathematics?"

He smiled, puzzled. "Alison seemed to think you were a Platonist."

"Lapsed. Or . . . defeated. I don't see what it can *mean* to talk about standard number theory still being true for these statements—in some vague Platonic sense—if no real objects can ever reflect that truth."

"We can still *imagine* it. We can still contemplate the abstraction. It's only the physical act of validation that must fall through. Think of transfinite arithmetic: no one can physically test the properties of Cantor's infinities, can they? We can only reason about them from afar."

I didn't reply. Since the revelations in Hanoi, I'd pretty much lost faith in my power to "reason from afar" about anything I couldn't personally describe with Arabic numerals on a single sheet of paper. Maybe Alison's idea of "local truth" was the most we could hope for; anything more

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ambitious was beginning to seem like the comic-book "physics" of swinging a rigid beam ten billion kilometers long around your head, and predicting that the far end would exceed the speed of light.

An image blossomed on the work station screen: it began as the familiar map of the defect—but Luminous was already extending it at a mind-boggling rate. Billions of inferential loops were being spun around the margins: some confirming their own premises, and thus delineating regions where a single, consistent mathematics held sway . . . others skewing into self-contradiction, betraying a border crossing. I tried to imagine what it would have been like to follow one of those Möbius-strips of deductive logic in my head; there were no difficult concepts involved, it was only the sheer size of the statements that made that impossible. But would the contradictions have driven me into gibbering insanity—or would I have found every step perfectly reasonable, and the conclusion simply unavoidable? Would I have ended up calmly, happily conceding: *Two and two make five?*

As the map grew—smoothly re-scaled to keep it fitting on the screen, giving the unsettling impression that we were retreating from the alien mathematics as fast as we could, and only just avoiding being swallowed—Alison sat hunched forward, waiting for the big picture to be revealed. The map portrayed the network of statements as an intricate lattice in three dimensions (a crude representational convention, but it was as good as any other). So far, the border between the regions showed no sign of overall curvature—just variously sized random incursions in both directions. For all we knew, it was possible that the far-side mathematics enclosed the near side completely—that the arithmetic we'd once believed stretched out to infinity was really no more than a tiny island in an ocean of contradictory truths.

I glanced at Yuen; he was watching the screen with undisguised pain. He said, "I read your software, and I thought: sure, this looks fine—but some glitch on your machines is the real explanation. Luminous will soon put you right."

Alison broke in jubilantly, "Look, it's turning!"

She was right. As the scale continued to shrink, the random fractal meanderings of the border were finally being subsumed by an overall convexity—a convexity of the far side. It was as if the viewpoint was backing away from a giant spiked sea-urchin. Within minutes, the map showed a crude hemisphere, decorated with elaborate crystalline extrusions at every scale. The sense of observing some palaeomathematical remnant was stronger than ever, now: this bizarre cluster of theorems really did look as if it had exploded out from some central premise into the vacuum of unclaimed truths, perhaps a billionth of a second after

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the Big Bang—only to be checked by an encounter with our own mathematics.

The hemisphere slowly extended into a three-quarters sphere . . . and then a spiked whole. The far side was bounded, finite. It was the island, not us.

Alison laughed uneasily. "Was that true before we started—or did we just *make* it true?" *Had the near side enclosed the far side for billions of years—or had Luminous broken new ground, actively extending the near side into mathematical territory that had never been tested by any physical system before?*

We'd never know. We'd designed the software to advance the mapping along a front in such a way that any unclaimed statements would be instantly recruited into the near side. If we'd reached out blindly, far into the void, we might have tested an isolated statement—and inadvertently spawned a whole new alternative mathematics to deal with.

Alison said, "Okay—now we have to decide. Do we try to seal the border—or do we take on the whole structure?" The software, I knew, was busy assessing the relative difficulty of the tasks.

Yuen replied at once, "Seal the border, nothing more. You mustn't destroy this." He turned to me, imploringly. "Would you smash up a fossil of *Australopithecus?* Would you wipe the cosmic background radiation out of the sky? This may shake the foundations of all my beliefs—but it encodes the truth about our history. We have no right to obliterate it, like vandals."

Alison eyed me nervously. *What was this—majority rule?* Yuen was the only one with any power here; he could pull the plug in an instant. And yet it was clear from his demeanor that he wanted a consensus—he wanted our moral support for any decision.

I said cautiously, "If we smooth the border, that'll make it literally impossible for IA to exploit the defect, won't it?"

Alison shook her head. "We don't know that. There may be a quantum-like component of spontaneous defections, even for statements that appear to be in perfect equilibrium."

Yuen countered, "Then there could be spontaneous defections *anywhere*—even far from any border. Erasing the whole structure will guarantee nothing."

"It will guarantee that IA won't find it! Maybe pin-point defections *do* occur, all the time—but the next time they're tested, they'll always revert. They're surrounded by explicit contradictions, they have no chance of getting a foothold. You can't compare a few transient glitches with this . . . *armory* of counter-mathematics!"

The defect bristled on the screen like a giant caltrap. Alison and Yuen both turned to me expectantly. As I opened my mouth, the work station

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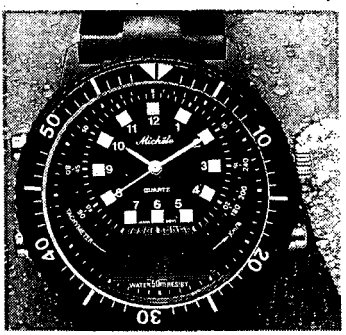

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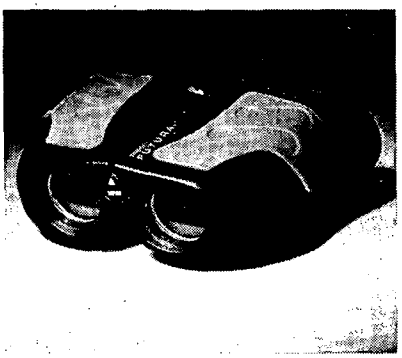

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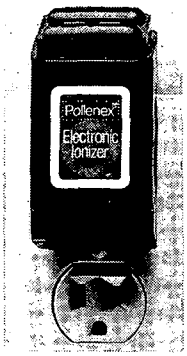

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Mother nature knows a lot about cleaning. In her realm bacteria produce enzymes that devour all manner of organic wastes. Now put this natural cleansing/purifying principle to work in your home. With the pet out system you can eliminate all the stains and lingering odors caused by animal accidents. Also works as a bathroom, laundry and general all purpose cleaner. Works on mildew and perspiration. 2 18oz. aerosol cans of OUT STAIN ELIMINATOR and 2 16oz. squeeze bottles of OUT ODOR ELIMINATOR: $24.98 ($5.75) #A1881.

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chimed. The software had examined the alternatives in detail: destroying the entire far side would take Luminous twenty-three minutes and seventeen seconds—about a minute less than the time we had left. Sealing the border would take more than an hour.

I said, "That can't be right."

Alison groaned. "But it is! There's random interference going on at the border from other systems all the time—and doing anything finicky there means coping with that noise, fighting it. Charging ahead and pushing the border inward is different: you can exploit the noise to speed the advance. It's not a question of *dealing with a mere surface* versus *dealing with a whole volume*. It's more like . . . trying to carve an island into an absolutely perfect circle, while waves are constantly crashing on the beach—versus bulldozing the whole thing into the ocean."

We had thirty seconds to decide—or we'd be doing neither today. And maybe Yuen had the resources to keep the map safe from IA, while we waited a month or more for another session on Luminous—but I wasn't prepared to live with that kind of uncertainty.

"I say we get rid of the whole thing. Anything less is too dangerous. Future mathematicians will still be able to study the map—and if no one believes that the defect itself ever really existed, that's just too bad. IA is too close. We can't risk it."

Alison had one hand poised above the keyboard. I turned to Yuen; he was staring at the floor with an anguished expression. He'd let us state our views—but in the end, it was his decision.

He looked up, and spoke sadly but decisively.

"Okay. Do it."

Alison hit the key—with about three seconds to spare. I sagged into my chair, light-headed with relief.

We watched the far side shrinking. The process didn't look quite as crass as *bulldozing an island*—more like dissolving some quirkily beautiful crystal in acid. Now that the danger was receding before our eyes, though, I was beginning to suffer faint pangs of regret. Our mathematics had coexisted with this strange anomaly for fifteen billion years, and it shamed me to think that within months of its discovery, we'd backed ourselves into a corner where we'd had no choice but to destroy it.

Yuen seemed transfixed by the process. "So are we breaking the laws of physics—or enforcing them?"

Alison said, "Neither. We're merely changing what the laws imply."

He laughed softly. " 'Merely.' For some esoteric set of complex systems, we're rewriting the high-level rules of their behavior. Not including the human brain, I hope."

My skin crawled. "Don't you think that's . . . unlikely?"

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"I was joking." He hesitated, then added soberly, "Unlikely for humans—but *someone* could be relying on this, somewhere. We might be destroying the whole basis of their existence: certainties as fundamental to them as a child's multiplication tables are to us."

Alison could barely conceal her scorn. "This is junk mathematics—a relic of a pointless accident. Any kind of life that evolved from simple to complex forms would have no use for it. Our mathematics works for . . . rocks, seeds, animals in the herd, members of the tribe. *This* only kicks in beyond the number of particles in the universe—"

"Or smaller systems that represent those numbers," I reminded her.

"And you think life somewhere might have a burning need to do *non-standard trans-astronomical arithmetic,* in order to survive? I doubt that very much."

We fell silent. Guilt and relief could fight it out later, but no one suggested halting the program. In the end, maybe nothing could outweigh the havoc the defect would have caused if it had ever been harnessed as a weapon—and I was looking forward to composing a long message to Industrial Algebra, informing them of precisely what we'd done to the object of their ambitions.

Alison pointed to a corner of the screen. "What's that?" A narrow dark spike protruded from the shrinking cluster of statements. For a moment I thought it was merely avoiding the near side's assault—but it wasn't. It was slowly, steadily growing longer.

"Could be a bug in the mapping algorithm." I reached for the keyboard and zoomed in on the structure. In close-up, it was several thousand statements wide. At its border, Alison's program could be seen in action, testing statements in an order designed to force tendrils of the near side ever deeper into the interior. This slender extrusion, ringed by contradictory mathematics, should have been corroded out of existence in a fraction of a second. Something was actively countering the assault, though—repairing every trace of damage before it could spread.

"If IA have a bug here—" I turned to Yuen. "They couldn't take on Luminous directly, so they couldn't stop the whole far side shrinking—but a tiny structure like this . . . what do you think? Could they stabilize it?"

"Perhaps," he conceded. "Four or five hundred top-speed work stations could do it."

Alison was typing frantically on her notepad. She said, "I'm writing a patch to identify any systematic interference—and divert all our resources against it." She brushed her hair out of her eyes. "Look over my shoulder, will you, Bruno? Check me as I go."

"Okay." I read through what she'd written so far. "You're doing fine. Stay calm." Her hands were trembling.

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The spike continued to grow steadily. By the time the patch was ready, the map was re-scaling constantly to fit it on the screen.

Alison triggered the patch. An overlay of electric blue appeared along the spike, flagging the concentration of computing power—and the spike abruptly froze.

I held my breath, waiting for IA to notice what we'd done—and switch their resources elsewhere? If they did, no second spike would appear—they'd never get that far—but the blue marker on the screen would shift to the site where they'd regrouped and tried to make it happen.

But the blue glow didn't move from the existing spike. And the spike didn't vanish under the weight of Luminous's undivided efforts.

Instead, it began to grow again, slowly.

Yuen looked ill. "This is *not* Industrial Algebra. There's no computer on the planet—"

Alison laughed derisively. "What are you saying now? Aliens who need the far side are defending it? Aliens *where*? Nothing we've done has had time to reach even . . . Jupiter." There was an edge of hysteria in her voice.

"Have you measured how fast the changes propagate? Do you know, for certain, that they can't travel faster than light—with the far-side mathematics undermining the logic of relativity?"

I said, "Whoever it is, they're not defending all their borders. They're putting everything they've got into the spike."

"They're aiming at something. A specific target." Yuen reached over Alison's shoulder for the keyboard. "We're shutting this down. Right now."

She turned on him, blocking his way. "Are you crazy? We're almost holding them off! I'll rewrite the program, fine-tune it, get an edge in efficiency—"

"No! We stop threatening them, then see how they react. We don't know what harm we're doing—"

He reached for the keyboard again.

Alison jabbed him in the throat with her elbow, hard. He staggered backward, gasping for breath, then crashed to the floor, bringing a chair down on top of him. She hissed at me, "Quick—shut him up!"

I hesitated, loyalties fracturing; his idea had sounded perfectly sane to me. But if he started yelling for security—

I crouched down over him, pushed the chair aside, then clasped my hand over his mouth, forcing his head back with pressure on the lower jaw. We'd have to tie him up—and then try brazenly marching out of the building without him. But he'd be found in a matter of minutes. Even if we made it past the gate, we were screwed.

Yuen caught his breath and started struggling; I clumsily pinned his

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arms with my knees. I could hear Alison typing, a ragged staccato; I tried to get a glimpse of the work station screen, but I couldn't turn that far without taking my weight off Yuen.

I said, "Maybe he's right—maybe we should pull back, and see what happens." *If the alterations could propagate faster than light . . . how many distant civilizations might have felt the effects of what we'd done?* Our first contact with extraterrestrial life could turn out to be an attempt to obliterate mathematics that they viewed as . . . what? A precious resource? A sacred relic? An essential component of their entire world view?

The sound of typing stopped abruptly. "Bruno? Do you feel—?"

"What?"

Silence.

"What?"

Yuen seemed to have given up the fight. I risked turning around.

Alison was hunched forward, her face in her hands. On the screen, the spike had ceased its relentless linear growth—but now an elaborate dendritic structure had blossomed at its tip. I glanced down at Yuen; he seemed dazed, oblivious to my presence. I took my hand from his mouth, warily. He lay there placidly, smiling faintly, eyes scanning something I couldn't see.

I climbed to my feet. I took Alison by the shoulders and shook her gently; her only response was to press her face harder into her hands. The spike's strange flower was still growing—but it wasn't spreading out into new territory; it was sending narrow shoots back in on itself, crisscrossing the same region again and again with ever finer structures.

Weaving a net? Searching for something?

It hit me with a jolt of clarity more intense than anything I'd felt since childhood. It was like reliving the moment when the whole concept of *numbers* had finally snapped into place—but with an adult's understanding of everything it opened up, everything it implied. It was a lightning-bolt revelation—but there was no taint of mystical confusion: no opiate haze of euphoria, no pseudo-sexual rush. In the clean-lined logic of the simplest concepts, I saw and understood exactly how the world worked—

—except that it was all wrong, it was all false, it was all impossible.

Quicksand.

Assailed by vertigo, I swept my gaze around the room—counting frantically: *Six work stations. Two people. Six chairs.* I grouped the work stations: three sets of two, two sets of three. One and five, two and four; four and two, five and one.

I weaved a dozen cross-checks for consistency—*for sanity* . . . but everything added up.

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They hadn't stolen the old arithmetic; they'd merely blasted the new one into my head, on top of it.

Whoever had resisted our assault with Luminous had reached down with the spike and rewritten our neural metamathematics—the arithmetic that underlay our own reasoning *about* arithmetic—enough to let us glimpse what we'd been trying to destroy.

Alison was still uncommunicative, but she was breathing slowly and steadily. Yuen seemed fine, lost in a happy reverie. I relaxed slightly, and began trying to make sense of the flood of far-side arithmetic surging through my brain.

On their own terms, the axioms were . . . trivial, obvious. I could see that they corresponded to elaborate statements about trans-astronomical integers, but performing an exact translation was far beyond me—and thinking about the entities they described in terms of the huge integers they represented was a bit like thinking about *pi* or *the square root of two* in terms of the first ten thousand digits of their decimal expansion: it would be missing the point entirely. These alien "numbers"—the basic objects of the alternative arithmetic—had found a way to embed themselves in the integers, and to relate to each other in a simple, elegant way—and if the messy corollaries they implied upon translation contradicted the rules integers were supposed to obey . . . well, only a small, remote patch of obscure truths had been subverted.

Someone touched me on the shoulder. I started—but Yuen was beaming amiably, all arguments and violence forgotten.

He said, "Lightspeed is *not* violated. All the logic that requires that remains intact." I could only take him at his word; the result would have taken me hours to prove. Maybe the aliens had done a better job on him—or maybe he was just a superior mathematician in either system.

"Then . . . where *are* they?" At lightspeed, our attack on the far side could not have been felt any further away than Mars—and the strategy used to block the corrosion of the spike would have been impossible with even a few seconds' time lag.

"The atmosphere?"

"You mean—*Earth's?*"

"Where else? Or maybe the oceans."

I sat down heavily. Maybe it was no stranger than any conceivable alternative, but I still balked at the implications.

Yuen said, "To us, their structure wouldn't look like 'structure' at all. The simplest unit might involve a group of thousands of atoms—representing a trans-astronomical number—not necessarily even *bonded together* in any conventional way, but breaking the normal consequences of the laws of physics, obeying a different set of high-level rules that arise from the alternative mathematics. People have often mused about

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the chances of intelligence being coded into long-lived vortices on distant gas giants . . . but *these* creatures won't be in hurricanes or tornadoes. They'll be drifting in the most innocuous puffs of air—invisible as neutrinos."

"Unstable—"

"Only according to *our* mathematics. Which does not apply."

Alison broke in suddenly, angrily. "Even if all of this is true—where does it get us? Whether the defect supports a whole invisible ecosystem or not—IA will still find it, and use it, in exactly the same way."

For a moment I was dumbstruck. *We were facing the prospect of sharing the planet with an undiscovered civilization—and all she could think about was IA's grubby machinations?*

She was absolutely right, though. Long before any of these extravagant fantasies could be proved or disproved, IA could still do untold harm.

I said, "Leave the mapping software running—but shut down the shrinker."

She glanced at the screen. "No need. They've overpowered it—or undermined its mathematics." The far side was back to its original size.

"Then there's nothing to lose. Shut it down."

She did. No longer under attack, the spike began to reverse its growth. I felt a pang of loss as my limited grasp of the far-side mathematics suddenly evaporated; I tried to hold on, but it was like clutching at air.

When the spike had retracted completely, I said, "Now we try doing an Industrial Algebra. We try bringing the defect closer."

We were almost out of time, but it was easy enough—in thirty seconds, we rewrote the shrinking algorithm to function in reverse.

Alison programmed a function key with the commands to revert to the original version—so that if the experiment backfired, one keystroke would throw the full weight of Luminous behind a defense of the near side again.

Yuen and I exchanged nervous glances. I said, "Maybe this wasn't such a good idea."

Alison disagreed. "We need to know how they'll react to this. Better we find out now than leave it to IA."

She started the program running.

The sea-urchin began to swell, slowly. I broke out in a sweat. The far-siders hadn't harmed us, so far—but this felt like tugging hard at a door that you really, badly, didn't want to see thrown open.

A technician poked her head into the room and announced cheerfully, "Down for maintenance in two minutes!"

Yuen said, "I'm sorry, there's nothing—"

The whole far side turned electric blue. Alison's original patch had detected a systematic intervention.

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We zoomed in. Luminous was picking off vulnerable statements of the near side—but something else was repairing the damage.

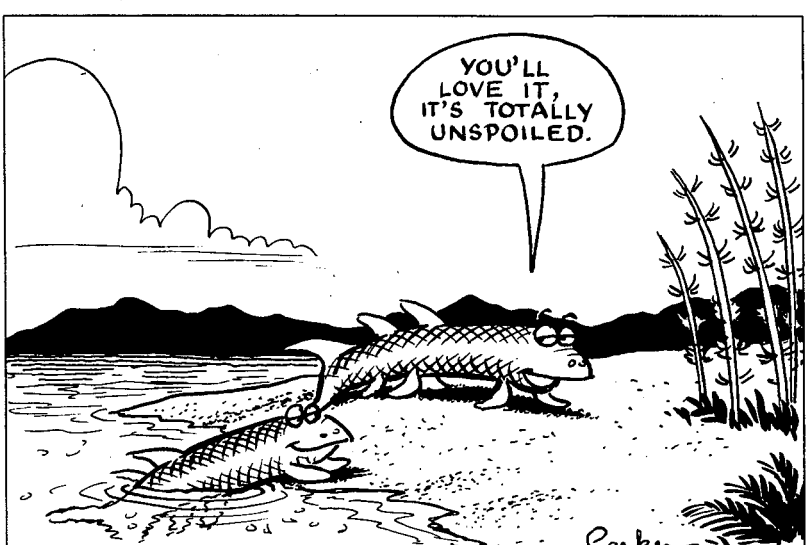
I let out a strangled noise that might have been a cheer. Alison smiled serenely. She said, "I'm satisfied. IA don't stand a chance."

Yuen mused, "Maybe they have a reason to defend the status quo—maybe they rely on the border itself, as much as the far side."

Alison shut down our reversed shrinker. The blue glow vanished; both sides were leaving the defect alone. And there were a thousand questions we all wanted answered—but the technicians had thrown the master switch, and Luminous itself had ceased to exist.

The sun was breaking through the skyline as we rode back into the city. As we pulled up outside the hotel, Alison started shaking and sobbing. I sat beside her, squeezing her hand. I knew she'd felt the weight of what might have happened, all along, far more than I had.

I paid the driver, and then we stood on the street for a while, silently watching the cyclists go by, trying to imagine how the world would change as it tried to embrace this new contradiction between the exotic and the mundane, the pragmatic and the Platonic, the visible and the invisible. ●



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BROWNIES AT WORK

The conference room brownies pick up
Dead coffee cups, candy wrappers, crumbs.
Deep in the walls they burrow
And build themselves styrofoam fortresses
To keep the mice and cockroaches at bay.

The conference room brownies are fine craftsworkers.
They have tiny Swiss army knives
Ordered in triplicate from the gnomes of Zurich,
And they carve bas reliefs all over their styrofoam walls.
They carve figurines and portrait heads
From packing peanuts.
They drain soda pop cans of dregs
And toast themselves with syrupy vintage
At their banquets.

Once they were simple rural brownies.
Now they have tapped into the electricity
and the watermains.

Drop your unfinished sandwich on the floor
Before you go.
The conference room brownies will be grateful.

—Ruth Berman

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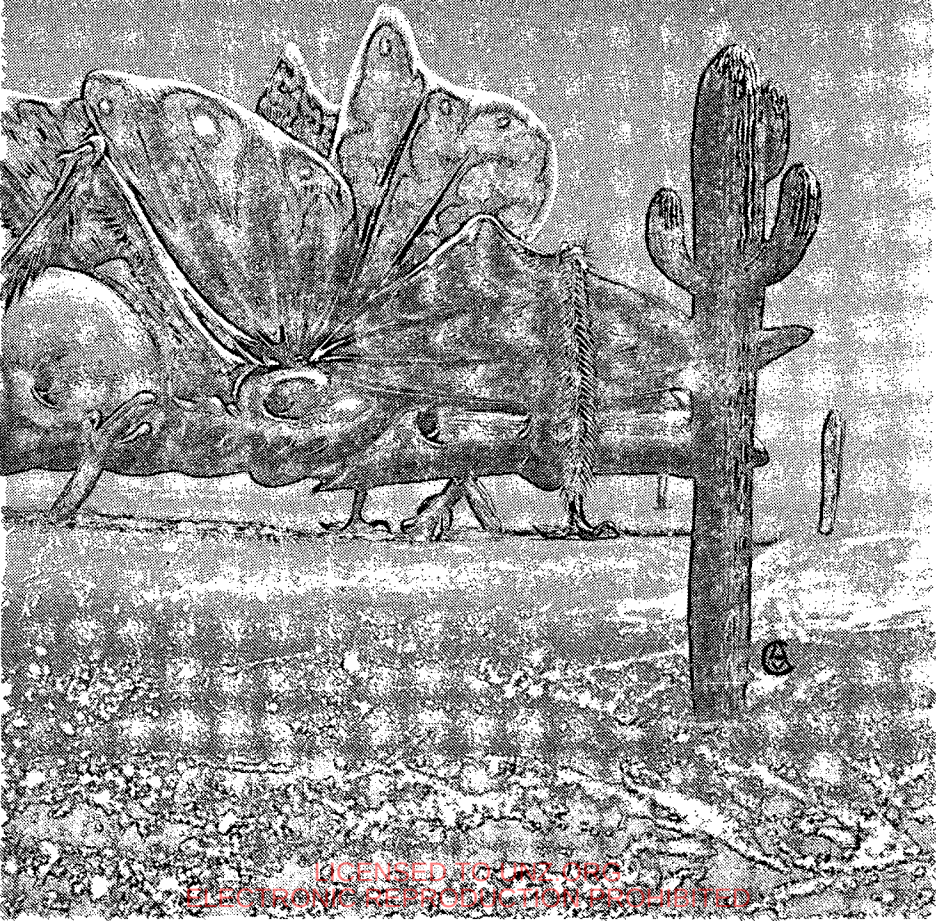
Don Webb

PARADISE LOST

The more than two hundred large and small magazines that have run Don Webb's work include *Asimov's, Science Fiction Age, Amazing, Wired, Asylum Annual, Fiction International, Interzone, Back Brain Recluse, Psypherboria* (Japan), *Prakalpana Literature* (India), and *Pulphouse*. Shannon Ravenel selected his story, "Jessie Revenged" (*Asimov's*, December 1986), for her "Hundred Best" list in *Best American Short Stories 1987*. The author has two chapbooks, *The Seventh Day and After* (Wordcraft of Oregon) and *The Bestseller and Other Tales* (Chris Drumm Books), which are available from their publishers.

Illustration by Alan M. Clark



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I checked my notes one last time. If I fouled up, there would be Hell to pay. I traced the triangle of Art. I uttered the words that open wide the gates of Hell, "Zazas zazas nasethenda zazas." The linoleum trembled and my Formica countertops shook. Thank God I'd disconnected my smoke alarms. The chalk sigil glowed incandescently. Waves of heat pounded my face. I stepped back against my dishwasher, activating the superscrub cycle. *The Book of the Green Fly* just didn't take the dimensions of the modern efficiency apartment into account. I commanded the demon to appear, "Veni Seere! Appear and be friendly to Me." I'd chosen Seere since he can cause things to come about instantly, transport anything to anyplace in a split second, and distort messages. An angular vortex opened in the shimmering air, and a black gelatinous mass squelched through. The mass reared itself up into a yellow, green, red-and-black column of putrescence with a thousand mouths and a hundred eyes. I thought I was going to lose my cookies.

"Appear to me in a comely and pleasing form!" I commanded.

The column gibbered and shrieked. What would the neighbors think?

"Appear to me in a comely and pleasing form, or I shall destroy your Name, and you shall not be able to manifest in a coherent form for a hundred years." I put a paper plate upon which I had written the demon's Name atop the big burner on my Hotpoint electric range. I turned the burner on high. The column gibbered and drooled. The paper plate began to darken. The column reshaped itself into an eight-foot-tall, three-eyed gray saurian. "Not good enough!" I said. The paper plate began to smoke.

"Oww! Stop that." The saurian had transformed his form into that of a sandy-haired prince on a winged horse. The horse, save for its black wings, resembled Mr. Ed. This was Seere's true form. I pulled the paper plate from the burner. I was face-to-muzzle with Mr. Ed. He let a horse flop fall on my countertop.

"Don't do that."

The horse answered, "I've got no control over my bowels. That's why I hate horseforms."

"I thought *he* talked."

"No, the prince is there for punishment. He gets to leave Hell for a few minutes whenever some *other* asinine magician stumbles across *The Book of the Green Fly*. However, he can neither speak nor move in any manner. This intensifies his suffering. I am verily the demon Seere, constrained by your most marvelous Art to stand in this triangle." The horse yawned, filling my face with horse breath.

"I bet you don't get summoned up that often."

"Are you kidding? *The Book of the Green Fly* is a Dover reprint. Everybody and his *brother* is calling up the Lowerarchy! How else do you explain the state of the world?"

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"What'd *he* do to deserve special punishment?"

Tears had begun to course down the prince's cheeks.

"What *you* are about to do. He sold his soul to me. He does not even merit my special attention in Hell. Of all the souls in my charge, I particularly punish one Anton Lamont O'Neddy, author of *The Book of the Green Fly*. Anton, who bargained for a Book of Power, advised sorcerers to make me appear in this disgusting form. I hate mammals generally. Now, if you could see the post-mammalian life that we've planned for this planet! Now *there's* some lifeforms!"

"Can you see the future, then?"

"Only Our Enemy has perfect knowledge, but we still have dreams. What do you want, wealth?"

"I am a reporter. I want the Great Story. Something that will make my name for all time."

"Fire? Plague? War? Those belong to the big guys—Leviathan, Satan, Belial. They buy and sell souls by the gross."

"No, I want something right down your alley. I want to be the first human to contact an alien species."

"I think Lilly's already working with dolphins. . . . "

"No. I mean an extraterrestrial space-faring race. A truly *alien* one. Plus, they have to be uninterested in conquering the human race. Plus, I get to have exclusive rights on the story in all mediums and languages. Plus, you must serve me in any capacity I desire during their stay. Plus, should you default on the contract in any way, you must grant me an additional five hundred years of life without let or hindrance, freeing me to seek my own salvation. For this, I will pledge my soul to you to do with as you will."

For the first time, Seere seemed interested. "E.T. contact? Your race, despite its noble tradition of science fiction, is *totally* unprepared philosophically for alien contact. This could rip the social fabric to shreds! And I can *do* this! My name will be exalted in Hell forever! Brother, it's a deal!"

"I took the liberty of having a contract drawn up. Both copies have my name in blood. Simply add your sigil in this space, and we'll be in business."

Seere snorted. "This smells of lawyer. We have so many lawyers that their smell is the second strongest scent in Hell."

"What's the strongest?"

"The delectable scent of human suffering. I will leave a ring of gold graven with my seal, that you may summon me at your will. Take care that you do so only to advance your cause, for I take umbrage at this servitude to the race of Adam, and will pay you back for it many times in Hell. As for your pitiful hopes of eluding me, know that I have never

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lost a soul due to human cleverness. And although I may not be able to divine man's innermost thoughts—I know their measure."

The horse reared up and was gone. A copy of the contract remained bearing his sigil. I found the ring.

In the horseflop.

I went to Arizona. Bardo, Arizona, to be precise. I rented a concrete teepee, a product of the same tribe who make the rubber tomahawks. The motel keeper hadn't had a rental in three years. She'd almost forgotten the procedure.

Fortunately, the swamp cooler worked. Behind my teepee (with its bold angular stripes of green and tan flaking paint) was a vermillion-sanded desert. There had been a light rain that morning, a very rare event, and one I took as an omen that the times were a-changing. The creosote bush smelled particularly sharp. I had just unpacked my suitcase when someone knocked loudly on my teepee's wooden door.

A thin balding man in a faded corduroy suit stood in the harsh desert sunlight. He had a hollow look. A strong desert wind could have blown him away. I wondered for a moment if he could be the alien I was supposed to contact. If something *this* human was as alien as could be found, then it was a pitifully small universe. My ring grew warm.

"Seere sent me. He has found the aliens. He is greatly excited at the chaos this may unleash."

"Who are you?"

"I am Matt Schultz, formerly a captain in the S.S. Ahnenerbe division. When I saw the way the war was going, I summoned up Seere in Himmler's secret black magic chamber in Wewelsburg Castle. I get to live as long as mankind endures, and Seere transports me from place to place instantly. My escape is also my punishment. I am Seere's eyes and ears."

"I thought demons were omniscent."

"When they were angelic beings, they were, of course, omniscient. Until Lucifer revolted, there was one Will in the universe. Only one. Everything was precise. Now there are *many* wills. *Error* is the stuff the universe is made of. All lies and contradictions. If a single truth—no matter how small—actually came into being, the universe would be destroyed by its existence. Do you wish for me to stand here all day discussing philosophy, or may we move inside this quaint dwelling?"

I motioned him in.

"Why are you here?"

"Seere desires that you be watched. He didn't specify how I do this. So I decided to meet you. I haven't talked to anyone human in a long time."

"How long? Why does he want me to be watched?"

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"My last conversation was with a Soviet physicist in 1968. I understand the Soviet Union's fallen since then. I think Seere's afraid that you'll call upon the Man Upstairs to nullify the contract. It's not too late to do so. Seere hasn't provided you with any real services yet. He knows that you're planning on sneaking out of this deal. He wants to do the deal and bag you."

"And he told you all these things."

"Seere is an easy master. My service would be made more pleasant if you told me how you're going to try to nullify the deal."

"And more unpleasant if I don't?"

"Probably. But my greatest pleasure would come if I saw someone slip through his claws." Matt Schultz smiled.

"Let's go for a hamburger and a beer, and fill the night with talk of the world, as befits two intelligent men. Tomorrow night, I will summon your master and set in motion the chain of events that will give you the greatest pleasure."

Matt smiled again, but when the smile died, I saw something in his face like erosion, as though his suffering was wearing him away as wind and sand wear away the pyramids. And his suffering was just beginning. I hoped I was clever enough to get out of this. It wasn't guys in shiny red tights poking you if you didn't stoke the furnaces fast enough. It wasn't a game anymore.

I was saddened when I discovered that Herr Schultz didn't sleep. Seere had imposed on him a constant state of wakefulness. In fact, he couldn't remain still for long. As I slept, he circled the Wig-Wam Motor-Tel again and again. The soles of his shoes were cast iron. Two days passed and he was beginning to wear a path in the desert floor.

That twilight I called upon Seere. He appeared instantly in a small arroyo less than a hundred yards behind my teepee.

"I await your commands, son of Adam," he said (in a voice that reminded me of a dog vomiting).

"First, cause the following news stories to appear where indicated." I handed him a sheaf of paper. I had chosen a variety of venues. As well as all the supermarket tabloids, I sent articles to every Third and Fourth World newspaper I could find. Notices that I had made alien contact (in Bardo, Arizona) and suggesting that the citizen consider what a huge change this meant. He or she should consult every authority available to him (or her)—commissar, priest, witch doctor, revolutionary leader—to try to piece the news together. Seere smiled a horsey smile. "This should stir things up." He bit at the sheaf of papers and chewed them thoroughly. "There, it is done. I have distorted messages around the world so that your words will appear in place of what was meant to be

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written. It will appear two days before the actual news in all cases. Now are you ready to meet the aliens?"

"Brief me."

"They are explorers, close cultural analogs to you. They are 'news reporters' from their home systems."

"Systems?"

"Twelve solar systems in the Lesser Magellanic Clouds. They are making their first survey of the Milky Way."

"And they're not interested in taking over Earth?"

"No. They're nauseatingly moral."

"Why do they think they're coming here?"

"They have nodes in their exoskeletons which function as I/O ports for their craft's living computer. They haven't understood anything it's said in the last two days. They're landing here to pick up some insect DNA to grow a new computer."

"And you have gifted me with the power of their speech."

"You try my patience, mortal. Of course I have lived up to the contract."

"Well, let's get this show on the road."

Seere whinnied and vanished. Something glimmered in the twilight convection waves. It grew more and more solid until it was finally really *here*. The ship was big and bulky, clearly not made for atmospheric travel. It was all colors. Imagine a group of butterfly wings, grasshopper parts, shiny beetle underbellies, and furry tarantula legs all cut up and reassembled by Salvador Dali. The craft was roughly ninety feet long at its longest, and ten feet tall at its shortest. It rested on the desert sand, having crushed two saguaro cactuses. It appeared to be breathing through a group of tiny irises scattered randomly across its surface. It was beautiful; I wished I wasn't such a hack and could've described its *alienage* in my writing.

As I approached the craft, several feelers and antennae twitched in my direction. It smelled (overpoweringly) of roses. I walked to within twenty yards of it. I willed myself into their language mode and called out, "Greetings. We have been expecting you. That is why the leadership of my planet has programmed me with your language. I am to be your sole contact, as the rest of my race is busy with other matters." I had clicked, whirred, and chimed like a tuning fork. A similar collection of sounds responded to me: "Greetings. I/We are in awe of your science that you were able to predict our arrival and construct our language. I/We hope that I/we are not so primitive that we may not have data we can trade with you. I/We am/are glad that your planet chose to contact me/us."

I said, "I/We am/are sure that we will have data to trade. Each sentient race discovers different things. Of course, since we are more advanced

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than you, you will be required to begin the trading process." Lights began to flash. Matt was circling the craft—flashing pictures with my Minolta.

"Of course. I/We wish to apologize that my/our sensors didn't detect your planet's civilization during my/our approach. Things seem to be working more-or-less correctly now. Let us view one another. I/We assume from the configuration of your eyes that we see in approximately the same wavelengths."

An orifice irised near the center of the craft mass. A thick protective wall of saliva—well, it *looked* like saliva—separated their atmosphere from mine. It took me several seconds to separate them from the organic background of their ship. One clung to the ceiling of the chamber with six of its eight legs. The other stood upright on two. They resembled eight-legged scarabs, light orange in color. Instead of beetle heads, they had a folded mass of moist mauve tissue. A rope of mucus connected their "heads" together. When they spoke, the upper joints of their forelegs vibrated. They asked, "Why does your companion flash the bright light?"

I wanted to say, "He is making a record," but I discovered that there were no gender words, in fact no words to differentiate any individual from yourself. This must be a hive mind. I said, "The other I is making a record of your visual appearance by chemical means." This sentence was two short whistles. Apparently they possessed the concept of photography.

"We will also make records of you."

A tentacle snaked free of the craft-mass. At its tip, what appeared to be a human eye winked incessantly.

I spent the rest of the evening gathering information for my article. They *were* a hive-mind—the mucous-coated cable sheathed a long axon in a protective slime. On their home worlds, they link up in groups of twenty-three to twenty-seven. The major cultural enterprise is herding vast numbers of their species into big time-space machines and sending them to another home world. There these units depart and quickly link up with as many different groups as possible—thus maintaining the consensus. Explorers are sent to gather as much data as possible, so that the group mind will have new things to consider. They have reached an upper limit of units—any more and the consensus would drift into separate groups. That would be abomination. They are masters at organic technology. Often during exploration, they create bodies like native lifeforms to house their consciousness. Thus they can record the essence of other-beings' life, and return these sensations to the group-mind. They began their journey a thousand Earth years ago. It is a quarter finished. They are a completely synthetic race—a test-tube hybrid of two races

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found on different home worlds. Their current shape owes little to natural selection. But you know all these things and more. You read my articles. Didn't you?

I typed late into the night, filling floppy after floppy with data. Matt would run to the twenty-four hour convenience store and bring me back root beer. He was glad to have structure for his endless moving. I asked if he would like to proof my article, or would he be too restless because of the compulsion Seere had put on him?

"Movement can be many things. It is not only walking or riding the bus. It can also be daydreaming, talking to yourself, talking for the sake of talk. It's any kind of twitch. Any mindless repetitive action. Proofreading is a form of moving."

So I handed him a printout of the article.

He asked, "Why *time*-space machine?"

"With the limiting velocity of light, a spacecraft would take hundreds of thousands of years to travel galactic distances. If it travels through both space *and* time it can make meaningful journeys."

"Oh."

Neither of us succeeded in understanding each other that night.

I put my stories on the wire. None of the majors would believe it, but they would be sending reporters to check it out. I sent word to the TV networks, *Rolling Stone, Playboy, Paris Match,* and the *Christian Science Monitor* that if they wanted future stories, they'd have to cut me an exclusive deal.

I visited the ship around eight in the morning.

"Oh friends, it has come to my attention that certain rogue members of my race may attempt to contact you. Clearly they are not sanctioned by my species. They have not been programmed with your language. They were not here to greet you. Can you help me with these rogues?"

"I/We am/are shocked that your race permits the existence of such deviants. Uncounted millennia ago I/we perfected genetics so no abominations could be born. How can I/we aid you?"

"If any such abominations approach your ship—"

"—I/we will destroy them."

"No, no. Just stun them. A blast of high volume, low frequency sound should suffice. It is not my/our custom to kill deviants. I/We merely ignore them."

"In the long run, that is probably misguided compassion, but it is not for me/us to criticize other races. I/We have detected a great deal of electromagnetic resonances around your planet. What is their function?"

"It is the means whereby I/we maintain the group mind."

* * *

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The first reporters began arriving six hours later. So did the Mayor and the Chief of Police of Bardo, Arizona. I told them that I had been physically drawn to this spot (I had really chosen Bardo because I liked all those '50s SF movies set in the desert, and I loved old Route 66). I told them these aliens, these superior beings from a galaxy far, far away, had implanted their language in my brain. And, finally, that I alone was to be the liaison between the aliens and humankind.

Of course, they didn't buy it.

Then they saw the ship.

They shot hundreds of pictures, but when they got too close to the ship, *boom*. They fell like flies. After they had seen the pattern a dozen times, I walked up to the ship. I asked the aliens to show themselves to these rogue-humans. After the photographers had shot thousands of feet of film, I told them that the aliens were fatigued and wanted everybody to go away (except me). If they didn't go away, the aliens would probably eat them. They went away. I had a few words with the Mayor. I told him to hold a town meeting that night. In a few hours, Bardo would be the most famous village on earth. If everybody banded together on what prices to charge for their land, their accommodations, and other resources, they would all be millionaires within the year. Solidarity. But it had to be *everybody,* from the Navaho sheepherder to the black vet that ran the post office.

There were more reporters the next day. There was a fight between an Egyptian and an Israeli film crew, but I stopped it by pointing out that maybe we shouldn't show our weaknesses in front of *them*. The Amazing Randi and Phillip Klass showed up to debunk the "saucer," and I collected the challenge checks each of them had made out. *Arizona Highways* announced a special pictorial issue. Four Japanese firms asked me to endorse their products. Pat Robertson declared the "UFO" a devil-induced delusion. Oral Roberts began exorcising it from his prayer tower in Tulsa, Oklahoma. Jimmy Swaggart welcomed them as a proof of God's divine love. The College of Cardinals went into secret session with His Holiness the Pope. Hopi medicine men showed up to see if this was the Great Brother promised in prophecy.

The Hong Kong stock market rose, New York fell, and Tokyo closed. A Chinese newspaper printed Lenin's remark to H. G. Wells that all social philosophies (including Marxism) were based on the belief that man was alone in the universe, and if this proved untrue they would all collapse. A million BBSs sprang up to discuss the landing (Mao had apparently never addressed the question of ETs). Tibetan nationals declared that this event was a sign of the Buddha's mercy, and stepped up their rebellion against Chinese forces. Likewise, Buddhist rebels in Nepal. A grass-roots "All men are brothers" movement sprang up in South

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Africa—oddly enough, based on hatred of these new weird creatures rather than love of one another. On a similar note, the United Klans of America began admitting black members. An Eskimo tribe in Greenland began selling its land to a Saudi developing company so that it could get enough money to send its shaman to Bardo. Civil war broke out in the Amazon basin, between the faction that reasoned that these-are-the-end-days-and-we'd-better-make-as-much-profit-as-we-can and the faction who thought that the-extraterrestrial-police-are-here-and-we-should-stop-committing-planetary-crimes. And everyone was waiting for the word from *me*.

That night, after everyone had cleared away from the craft, I summoned Seere.

Seere smiled, "You've done excellently. The social fabric of your planet is completely unraveling! I haven't seen so much havoc in Hell since the Rebellion, and our spies report that Heaven also is in turmoil. Your name will live forever as the great reporter. I'll take you now." He reared up.

"Well. If you want to. I wanted to tear the social fabric a little more, but I guess time's up."

He carefully lowered his front hooves. "Did you say *more?*"

"Sure. And I'm the man that can *do* it. After all, *you* never thought of this."

"Tell me your plans."

"No dice. If I tell you, you'll take me to Hell right now."

"I owe you nothing more. I *will* take you."

"Ah. But then you'll never know what *could've* been."

Seere growled. There is something genuinely disturbing in a horse growling.

"You are trying my patience. What is it you want?"

"Four more days. Matt's freedom. And a flamethrower. If you could fetch it."

"If I could FETCH it? What do you think I *am?*" His voice echoed faintly from the hills fifteen miles distant.

"You are the great and mighty Seere, who can transport things in an instant. You can surely manage a *flamethrower*. As for four days—what matter they, when you can torture me for all eternity? And as for Matt's freedom—"

"—NO, I cannot grant that. It is against everything the Lowerarchy stands for. Besides, he was an officer of the SS. Do you know what crimes he has committed?"

"Not enough crimes to damn his soul to Hell, or you would have never accepted it in a contract. Why bargain for something you've already got?"

"It's of no matter. I will not release him."

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"Release him. If I haven't torn the social fabric of the world more in four days, you can have him again."

"I will agree, but if you fail, the punishment for both of you will be unimaginably severe."

I thought I saw fear or warning in the prince's eyes. I had avoided looking at him and concentrated on Seere, because it controlled my own fear.

Seere called out, "Herr Captain Matthew Schultz!"

Matt ran up. His body bent backward as his feet raced to answer his master's call. Seere said, "Herr Schultz, you appear to have excited my latest victim's pity. He wants me to free you at the expense of putting your world in danger. That's the kind of bargain you were used to in the Reich. The dark side of German Romanticism. It is done." Heat lightening flickered in the distance and Matt collapsed in a heap.

"It will take him a few hours to learn to walk on his own. He's too used to my pulling the strings." Seere nodded, "Your flamethrower."

A brass canister fell from an unknown height burying itself in the sand by my feet. If it had varied its course by half an inch, it would've struck me dead. When I looked up, Seere had vanished.

At 10:02, I walked out from behind the shadow of the craft. I was wearing my best pinstripe, three-piece suit. My black shoes gleamed with polish, and my face gleamed with alien saliva. The saliva served as a selectively permeable membrane—it would enable me to breath when I entered the alien ship. In my trousers' right pocket, I had concealed the flamethrower. Every camera, every microphone, every note-taking reporter, was focused on me. My ring was uncomfortably warm, so I knew that Seere's attention was focused on me as well.

"My friends from beyond this galaxy are going to take me on an important journey. We will leave this place and we will be untrackable on your radar. This will show that we are not the hoax some people have claimed we are. I will return in three days. At that time, history as we understand it will be over. I suggest that the people of the world make such arrangements as they deem necessary."

There was a volley of questions. I ignored them and walked to the craft.

Rugose cones glowed with firefly light. The hexacombed floor gently undulated. Tiny spines grew from the shiny moist walls to taste my blood and sweat and satisfy the ship's curiosity at this strange being who had entered it. My hosts crawled along the ceiling, their mucous cable dipping in an elegant catenary between them. They asked, "Why did you address the rogue members of your species?"

"Sometimes when they hear my/our words they come to their senses

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and return to me/us. That's why so many of them carry electromagnetic equipment. They long to connect."

"Their existence must be fearsome."

"Indeed. Now, will you prepare me/us?"

"Certainly. But why are you so anxious to learn about my/our technology?"

"We agreed that you would begin the data trade. Besides, if you teach me/us about your ship, I/we will show you a great wonder."

"I/We will prepare you. Follow."

They crept along the ceiling and I followed below. Each scarab-green door irised as we spiraled toward the center of the craft. Small feelers rose up my pants legs, my nostrils, into my ears. I sensed that the craft was preparing itself for me and myself for it. The innermost chamber was lined with wet gray velvet. An indentation formed in the slanting wall—the shape and size of my body.

"Lie there."

I lay. I felt the warm wetness through my suit, through my hair, and on the nape of my neck. The indentation closed firmly around me. Only my face was free. Something bit its way into the back of my head.

"What the hell is *that?*"

"It is only an anesthetic probe preparing your head for the deeper work."

Sure enough, the pain vanished. I felt something tapping what must've been my skull, but the tapping was far away. Maybe in Tucson. Wisps of smoke passed my saliva mask. "Is everything okay?"

"Yes. The acid secretions are dissolving a section of your inner skeleton so the ship can connect to you."

Purple lightning filled my vision. My life literally flashed before my eyes—from the red light of the womb to the firefly light of this chamber. Then alien intelligence flooded me. I saw the five-dimensional manifold which the ship moved through. I felt the ship's legs and tongues and antennae; and experienced the data they gathered. I *remembered* the ship's log of thousands of years. I remembered when it was a young ship—not grown to full size—lifting away from the gigantic docks of the Great Hive. I felt Seere's magic interfering with its dialogue with the aliens. I felt its fear and confusion. I smelled the dirt of Arizona, and tasted my own sweat, and saw the mass of reporters in spectrums unknown to man.

The interface was complete.

And I saw that the ship would not reveal my secrets to the aliens any more than I would. At that instant, I *was* the ship. And the decentralized nerve masses that were the ship's computers saw my plan, and saw that it was good. I willed myself to see my hosts only out of my own eyes. I

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said, "How long did it take either of the, er, races that became you to achieve any form of space flight?"

"Although the exact figure is unavailable, between the time of achieving its final form and the first probe landing on one of its moons was approximately two million years. The second race did not achieve space flight on its own, but was contacted by the first race."

I caused the ship to move backward in time. To the onlookers, it merely faded away.

"My/our race achieved its current form only ten thousand years ago."

"This is amazing. How was this rapid rise achieved?"

"If you would be willing to take on the form of my species, I could take you to certain key historical locations and show you how the speed-up occurred."

"This would be most interesting."

"I/We will handle your transformation into appropriate forms if you care to go to the biotech chamber."

A group of shaggy low-browed men placed small rocks over their fallen companion. They had laid the flower-covered body in a shallow trench. They had been fearful of the ship at first, but had come to accept its presence in a few hours. The ship withdrew its interface from me and once again my consciousness was localized in my body. My suit was ruined. And my shoes. I had changed the ship's air to match Earth's. It still stank, but I was able to peel away the saliva mask.

I went to the bio-forming room. The aliens were awakening. I had made them Polynesian, male and female. The mucous cable connected them spine to spine. They were getting used to their new bodies. I led them to the observation port.

"Those are Neanderthals, the precursors of our race. Notice the burial customs, but no art, no aesthetics. Art is born of longing. So is science. That's the reason for the speed-up. The longing that Cro-Magnon man felt."

The aliens asked, "I/We are in the shape of Cro-Magnon man?"

"Yes. It's about time for them to show up too. Let's go outside and see if we can discover the difference between the two subspecies."

We walked out—I in my ruined business suit and they in their nakedness. The Neanderthals turned toward us, picking up stones. I pulled the flamethrower from my pocket and let a blast loose over their heads. They fled shrieking like dogs.

"They haven't really mastered fire yet."

I took a few steps back toward the ship. The aliens asked, "Where are the Cro-Magnon men?"

"Right *here*." I shot a blast of flame directly on the mucous cord. It

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snapped instantly. They whimpered and started to rush toward the ship. I fired a warning shot. They both said, "What have you done? I/We have lost the ecstasy of connection!"

"That's where the *longing* comes in. That's why you'll hold each other close. Why you'll invent art. Why your descendants' mental evolution will be rapid."

"How can I/we live without the group mind?"

"My race—excuse me, *our* race—has done it for millennia."

"What do I/we do now?" Each time they spoke, their voices grew more out of sync. They knew this and were afraid.

"If I were you, I'd work on getting garments. You'll need to have some way to address each other. For purely mythical reasons, I'll suggest Adam and Eve. But you'll figure out something. Watch the Neanderthals for tips on living. You'd better have your descendants mate with them. Otherwise you'll have genetic drift problems. Good luck."

I let out another flame blast—so they could feel the heat. Instinct (instincts *I* had put in them, copying from my own hardwiring) took over, and they ran from the heat. I prepared my notes. I returned to the ship and merged with it.

After a short side trip, I returned the ship to Bardo, Arizona, exactly three days after my departure. After I decoupled myself from the ship, I summoned Seere. The black-winged golden Palomino looked almost homey in comparison to the ship's noisome interior.

Seere said, "You were right. Making the ship disappear and reappear has totally rocked the world. The world is in total chaos. No one can tell what pattern of stability may erupt. Both the hosts of Heaven and Hell are in full movement. During this last twenty-four hours that you are free, how may I make you happy? I feel I owe you something for all this excitement."

"The deal's off, Seere. You failed to deliver."

"WHAT?"

"I asked you to bring me aliens as different from the human race as you could find. Instead you brought me the *progenitors* of the human race. In fact, the Fall of Man your master Lucifer takes the credit for, *I* accomplished myself."

"None of this is true!"

"Behold, it *is* true, Seere." I held forth my hand, and the golden ring shattered and fell to the hexacombed floor.

"How *could* you have known? How could you have planned this?"

"After I dropped off Adam and Eve, I stopped by my apartment. I typed a rough outline of what had happened on my computer. I always keep a

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file of potential story ideas. When my earlier self pulled up his/my idea file—he—that is to say, *I*—knew what to do."

"Why?"

"Like you pointed out. The world's in a state. This way, all movements vanish. No one can predict what islands of stability will arise, but I think, after all the media exposure, I can help things along. After all, I can now give mankind the stars, and all of time."

"You will fail. I'll stop you."

"You've given me five hundred years of action without hindrance or let. Besides, now that I've got the whole Fall of Man recorded, once Lucifer finds out that you are the one who made it possible for Men to know, I'm sure you'll be *very* busy."

Seere's eyes went wide. He vanished, leaving only the stench of brimstone. I walked out to greet the reporters, who were waiting for the Word. ●

—for J.V. and M.A.A.

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Allen Steele

THE WAR MEMORIAL

"The War Memorial" is a chilling response to the usual science-fiction-military-adventure story . . .

Illustration by Ron Chironna

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The first-wave assault is jinxed from the very beginning. Even before the dropship touches down, its pilot shouts over the comlink that a Pax missile battery seven klicks away has locked in on their position, despite the ECM buffer set up by the lunarsats. So it's going to be a dustoff; the pilot has done his job by getting the men down to the surface, and he doesn't want to be splattered across Mare Tranquillitatis.

It doesn't matter anyway. Baker Company has been deployed for less than two minutes before the Pax heatseekers pummel the ground around them and take out the dropship even as it begins its ascent.

Giordano hears the pilot scream one last obscenity before his ugly spacecraft is reduced to metal rain, then something slams against his back and everything within the suit goes black. For an instant he believes he's dead, that he's been nailed by one of the heatseekers, but it's just debris from the dropship. The half-ton ceramic-polymer shell of the Mark III Valkyrie Combat Armor Suit has absorbed the brunt of the impact.

When the lights flicker back on within his soft cocoon and the flatscreen directly in front of his face stops fuzzing, he sees that not everyone has been so lucky. A few dozen meters away at three o'clock, there's a new crater that used to be Robinson. The only thing left of Baker Company's resident card cheat is the severed rifle arm of his CAS.

He doesn't have time to contemplate Robinson's fate. He's in the midst of battle. Sgt. Boyle's voice comes through the comlink, shouting orders. Traveling overwatch, due west, head for Marker One-Eight-Five. Kemp, take Robinson's position. Cortez, you're point. Stop staring, Giordano (yes sir). Move, move, move. . . .

So they move, seven soldiers in semi-robotic heavy armor, bounding across the flat silver-gray landscape. Tin men trying to outrun the missiles plummeting down around them, the soundless explosions the missiles make when they hit. For several kilometers around them, everywhere they look, there are scores of other tin men doing the same, each trying to survive a silent hell called the Sea of Tranquillity.

Giordano is sweating hard, his breath coming in ragged gasps. He tells himself that if he can just make Marker One-Eight-Five—crater Arago, or so the map overlay tells him—then everything will be okay. The crater walls will protect them. Once Baker Company sets up its guns and erects a new ECM buffer, they can dig in nice and tight and wait it out; the beachhead will have been established by then and the hard part of Operation Monkey Wrench will be over.

But the crater is five-and-a-half klicks away, across plains as flat and wide-open as Missouri pasture, and between here and there a lot of shitfire is coming down. The Pax Astra guns in the foothills of the lunar highlands due west of their position can see them coming; the enemy

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has the high ground, and they're throwing everything they can at the invading force.

Sgt. Boyle knows his platoon is in trouble. He orders everyone to use their jumpjets. Screw formation; it's time to run like hell.

Giordano couldn't agree more whole-heartedly. He tells the Valkyrie to engage the twin miniature rockets mounted on the back of his carapace.

Nothing happens.

Once again, he tells the voice-activated computer mounted against the back of his neck to fire the jumpjets. When there's still no response, he goes to manual, using the tiny controls nestled within the palm of his right hand inside the suit's artificial arm.

At that instant, everything goes dark again, just like it did when the shrapnel from the dropship hit the back of his suit.

This time, though, it stays dark.

A red LCD lights above his forehead, telling him that there's been a total system crash.

Cursing, he finds the manual override button and stabs it with his little finger. As anticipated, it causes the computer to completely reboot itself; he hears servomotors grind within the carapace as its limbs move into neutral position, until his boots are planted firmly on the ground and his arms are next to his sides, his rifle pointed uselessly at the ground.

There is a dull click from somewhere deep within the armor, then silence.

Except for the red LCD, everything remains dark.

He stabs frantically at the palm buttons, but there's no power to any of the suit's major subsystems. He tries to move his arms and legs, but finds them frozen in place.

Limbs, jumpjets, weapons, ECM, comlink . . . nothing works.

Now he's sweating more than ever. The impact of that little bit of debris from the dropship must have been worse than he thought. Something must have shorted out, badly, within the Valkyrie's onboard computer.

He twists his head to the left so he can gaze through the eyepiece of the optical periscope, the only instrument within the suit that isn't dependent upon computer control. What he sees terrifies him: the rest of his platoon jumpjetting for the security of the distant crater, while missiles continue to explode all around him.

Abandoning him. Leaving him behind.

He screams at the top of his lungs, yelling for Boyle and Kemp and Cortez and the rest, calling them foul names, demanding that they wait or come back for him, knowing that it's futile. They can't hear him. For whatever reason, they've already determined that he's out of action; they

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cannot afford to risk their lives by coming back to lug an inert CAS across a battlefield.

He tries again to move his legs, but it's pointless. Without direct interface from the main computer, the limbs of his suit are immobile. He might as well be wearing a concrete block.

The suit contains three hours of oxygen, fed through pumps controlled by another computer tucked against his belly, along with the rest of its life-support systems. So at least he won't suffocate or fry. . . .

For the next three hours, at any rate.

Probably less. The digital chronometer and life-support gauges are dead, so there's no way of knowing for sure.

As he watches, even the red coal of the LCD warning lamp grows dim until it finally goes cold, leaving him in the dark.

He has become a living statue. Fully erect, boots firmly placed upon the dusty regolith, arms held rigid at his sides, he is in absolute stasis.

For three hours. Certainly less.

For all intents and purposes, he is dead.

In the smothering darkness of his suit, Giordano prays to a god in which he has never really believed. Then, for lack of anything else to do, he raises his eyes to the periscope eyepiece and watches as the battle rages on around him.

He fully expects—and, after a time, even hopes—for a Pax missile to relieve him of his ordeal, but this small mercy never occurs. Without an active infrared or electromagnetic target to lock in upon, the heatseekers miss the small spot of ground he occupies, instead decimating everything around him.

Giordano becomes a mute witness to the horror of the worst conflict of the Moon War, what historians will later call the Battle of Mare Tranquillitatis. Loyalty, duty, honor, patriotism . . . all the things in which he once believed are soon rendered null and void as he watches countless lives being lost.

Dropships touch down near and distant, depositing soldiers in suits similar to his own. Some don't even make it to the ground before they become miniature supernovas.

Men and women like himself are torn apart even as they charge across the wasteland for the deceptive security of distant craters and rills.

An assault rover bearing three lightsuited soldiers rushes past him, only to be hit by fire from the hills. It is thrown upside down, crushing two of the soldiers beneath it. The third man, his legs broken and his suit punctured, manages to crawl from the wreckage. He dies at Giordano's feet, his arms reaching out to him.

He has no idea whether Baker Company has survived, but he suspects

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it hasn't, since he soon sees a bright flash from the general direction of the crater it was supposed to occupy and hold.

In the confines of his suit, he weeps and screams and howls against the madness erupting around him. In the end, he goes mad himself, cursing the same god to whom he prayed earlier for the role to which he has been damned.

If God cares, it doesn't matter. By then, the last of Giordano's oxygen reserves have been exhausted; he asphyxiates long before his three hours are up, his body still held upright by the Mark III Valkyrie Combat Armor Suit.

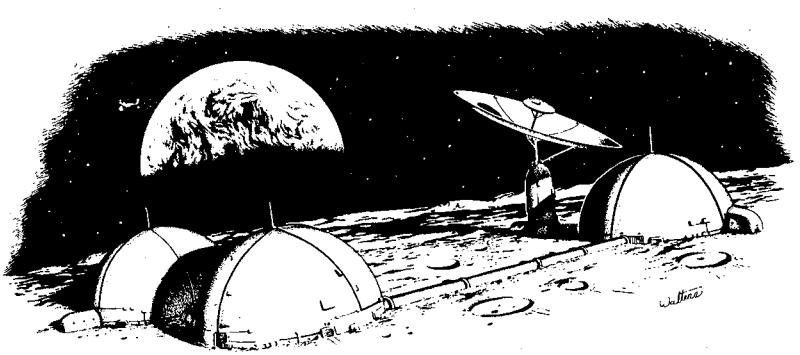
When he is finally found, sixty-eight hours later, by a patrol from the victorious Pax Astra Free Militia, they are astonished that anything was left standing on the killing ground. This sole combat suit, damaged only by a small steel pipe wedged into its CPU housing, with a dead man inexplicably sealed inside, is the only thing left intact. All else has been reduced to scorched dust and shredded metal.

So they leave him standing.

They do not remove the CAS from its place, nor do they attempt to prise the man from his armor. Instead, they erect a circle of stones around the Valkyrie. Later, when peace has been negotiated and lunar independence has been achieved, a small plaque is placed at his feet.

The marker bears no name. Because so many lives were lost during the battle, nobody can be precisely certain of who was wearing this particular CAS on that particular day.

An eternal flame might have been placed at his feet, but it can't, because nothing burns on the Moon. ●



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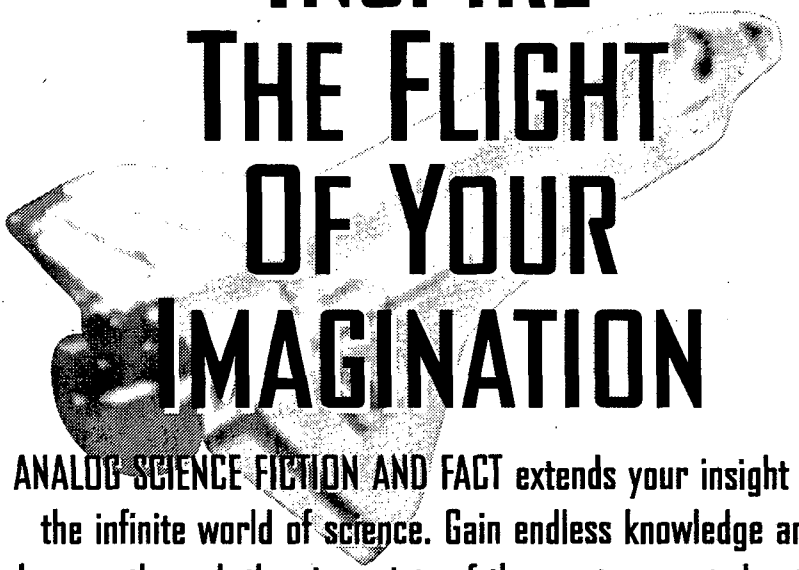

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Diane Mapes

GREEN

The author's short fiction has appeared in *Asimov's*, *F&SF*, and *Interzone*. Her nonfiction has been published in *The Christian Science Monitor*, *Southern Living*, and other periodicals. She lives in the often-rainy state of Washington with her cat, Cloudy.

Illustration by Steve Cavallo

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The trees were swaying again, shaggy limbs rustling furtively as if monkeys hid deep within them. Humorless monkeys, gamboling about as they prepared to drop pine cones on Sal MacIntyre as he trudged along beside Gunderson from Engineering.

"The official word from the department is that she's on vacation," Gunderson was saying. "Although I've talked to her secretary Dolores and she says she thought Marti's vacation wasn't scheduled to start until spring break, like everybody else's."

MacIntyre looked up at the trees as they walked, wondering why he would think of monkeys in these tall Northwest pines. Squirrels were a far more logical choice. The campus was lousy with them.

"Granted we weren't what you'd call *intimate,*" Gunderson went on—a little awkwardly, MacIntyre noted—"but there was *something* between us. I don't think she'd run off like that without telling me. She wasn't like that."

MacIntyre looked over at his companion. Gunderson wasn't exactly what you'd call a prime catch. Balding, slightly paunchy, the square wire frames of his glasses hopelessly out of date, his clothes not far behind. He wondered if Marti Cavanaugh was just trying to let him know in a less than tactful manner that she didn't appreciate his interest in her. Having an entire department cover for her was a little *extreme,* of course, but he'd had worse things done to *him.*

He looked up. They were almost to the Communications Building, the squat brick troll that housed MacIntyre's fifth floor office.

"I'm sure there's a logical explanation," he said, patting Gunderson's shoulder. "Maybe a family emergency came up. Maybe she decided she couldn't tolerate one more week of explaining to jughead freshmen that cold fusion doesn't really exist."

Maybe she's romping around in the Bahaman surf with DeVries, Engineering's new temperamental boy genius. MacIntyre hadn't seen his blond mop of curls around campus lately.

They stopped, and Gunderson squinted at a group of students and teachers coming out of the Engineering building, across the lane. Marti Cavanaugh was not among them.

"You know, she *was* getting pretty tired of it all," Gunderson said, taking off his glasses and cleaning them with his wide striped tie. "The politics, the meetings, the classrooms full of kids you know you'll never reach. She told me once that if she could escape it all, she would. You don't think she's . . ."

Gunderson's voice trailed off. He looked up at MacIntyre, his eyes pale blue, the eyes of a frightened child. MacIntyre got a flash of Marti Cavanaugh lying naked in a bathtub, her skin white and fishy, the water a rosy pink.

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"Suicide?" he said, and made himself laugh. "Come on, Gunderson, you're just getting yourself worked up now. Marti was stronger than that. She probably got another job offer and went off to interview at Cal Tech." He put his arm around Gunderson's slumped shoulder, cleared his throat awkwardly. "And there's always the ugly possibility that she didn't tell you she was going away because she didn't want you to know, Dick."

Gunderson put his glasses back on, nodded.

"I get ya," he said, moving away. "Well, thanks for listening, Sal. See you around."

MacIntyre watched him shuffle across the lane toward Engineering. He felt bad for bringing up the last—and most likely—explanation, but he couldn't let Gunderson go on fretting about Marti Cavanaugh's suicidal tendencies. MacIntyre didn't know the woman all that well, but he did know that she was smart and strong and good-looking enough not to have to bother with the Gundersons of the world. Or the MacIntyres, for that matter.

Marti Cavanaugh was probably lying on a hotel bed with a lover half her age—possibly even one of the jughead freshmen—laughing about the way Gunderson trotted around after her like some lovesick dormouse.

Something slapped against the sidewalk not far from his feet and MacIntyre looked up. A pine tree towered above him, swaying with the wind like a dancer he'd once seen on a smokey stage back in his college days. He'd followed the dancer back to a small drafty dressing room after her performance—her stage name was Sasha—told her he was a writer, that he wanted to ask her a few questions about her profession for a novel he was working on. How did it feel to cater to men's seamier desires? Did she feel dirty dancing for a room full of degenerates night after night? Sasha had laughed, told him he was kidding himself. Told him he was no different from the guys out front with their folded fifties ready to stuff inside her.

"You all want a piece," she'd said, drawing thick black lines around her eyes. "They want a piece of my ass, you want a piece of my soul. It costs either way, baby."

MacIntyre had left with no more insights into the woman's life than when he'd stood in line outside the black clapboard building, wondering what a Texas Couch Style Dance was. He finally decided against using the dancer character in his book. Later on, he'd decided against the entire book.

Sasha had been right: he had been kidding himself. About a lot of things. He wasn't a writer: he'd never been a writer. He'd only wanted to ogle her, to revel in her baseness—the thick sheen of sweat and pancake make-up on her face, the dirt on the straps of her white latex

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bra—while telling himself that it was all for the sake of accuracy. He was doing research, nothing more, interviewing this tramp so he could use her as a basis for a much more complex and sympathetic character in his book. Such hypocrisy sickened him now. He should have just paid her the fifty and had done with it. But he'd been too busy fucking with his mind to think about fucking anybody else.

There was another slap on the sidewalk, closer. He saw a pine cone lying at his feet, realized he'd been staring up at the tree for minutes. How many? He wasn't sure. A movement above caught his eye, not the shift of branches in the wind, something else, something more deliberate. He peered up at the tree, the swaying green, saw something flicker at the periphery of his vision. An arm? An arm letting drop a lacey green branch? Impossible.

"Hi, Professor MacIntyre," someone said behind him. He turned and saw one of the freshmen, new to *The Daily* staff.

"Oh, hello . . . Angela, isn't it?" he said. The girl beamed.

"That's right. Wow, you remembered," she said. "So are we still gonna have that staff meeting today or is it, like, canceled or something?"

MacIntyre looked at his watch. It was five minutes after two.

"No, it's not canceled," he said, turning to open one of the wide metal doors to the Communications Building. Angela slipped in under his arm, hesitating for a fraction of a second as he stepped behind her. Oh, those eager willing Angelas, he thought. When he'd first started as advisor for the student newspaper two years ago, fantasizing about the Angelas had been enough to see him through the long afternoons of hazy discontent. Now, they only made him realize how much he'd grown to hate his job, his life.

If only he could escape, like Marti Cavanaugh. Had she gone on to Cal Tech., to a better job? Had she flown off to Puerta Vallarta with a promising young physics major? Or had she opted for the bathtub full of rosy pink water? The latter had certainly suggested itself to MacIntyre more than once. He could still feel the pleasant bite of the blade at his wrists the night that he realized that Lucy had left him.

Lucy. The door sighed behind him. Oh, Lucy.

The staff meeting was the usual amalgamation of excuses, misconceptions, and strident earnestness. It was spring, and the kids wanted to nail somebody up against the wall, it didn't matter who. MacIntyre had seen it here at *The Daily* both last year and the year before, had seen it before that every spring for twelve years at the University of Oregon; he'd been a part of it himself back when he was in college.

"They're trying to take away our freedoms!" a girl was saying, the six-inch earring stapled into her right ear rocking back and forth against

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her lime green hair as she talked. "That radio station belongs to the *students:* the administration has no right, *no right!*"—MacIntyre smiled as her little fist pounded the desk—"trying to dictate what goes on the air!"

The girl's name was Cerise or Cyan, something like that. He'd had a hard time remembering the names this last quarter, especially when they all sounded like crayons. Cerise or Cyan knew how to put a sentence together, and a story as well, once she calmed down and let her better judgment and the rhythm of the words take over. For the most part, though, she was far more interested in holding forth.

MacIntyre looked around the room at his students, rebels all, with their identical tattoos, nose rings, combat boots, and black clothes covered with skulls and ironic post-modern statements: Picard in '92, I'm in Love With Betty Rubble, Take Me on a Three-Hour Tour. For the most part, they were *all* more interested in holding forth, in shouting down the wrongs of the administration, the government, the country, the world. None of them had *seen* the world, of course. None of them had lived more than their twenty-one well-fed, well-insulated years. They were babies, all of them. Babies with black eyeliner and Camel straights and CD players that their daddies bought them blasting out Soundgarden's latest bitter social commentary. They were hopeless. Or maybe MacIntyre was the hopeless one. He couldn't even sit with them for a half hour without wanting to laugh at them, laugh at himself. He wasn't an advisor any more than he was a writer, and ever since Lucy had left him, he'd lost his abilities as a teacher. There was nothing he could tell these kids, nothing that they didn't already know ninety-nine times better. And they all knew it, sensed it in him—this lacking, this rank smell of intellectual death. He couldn't even fake it any more.

"Then it's decided." Brandon, this quarter's editor, was looking at him, expectantly. MacIntyre shifted in his seat. He was supposed to say something, he didn't know what.

"You realize that to the administration, *The Daily* has just as much autonomy as KCMU," he said. There were grumbles around him. "I know, I know, it's not what you want to hear. But it's my job to tell you this. They could shut you down just as easily as they shut down that radio station."

"Let 'em *try,*" the girl with the earring said. It swayed back and forth tantalizingly, putting forth a pleasant soft chime. MacIntyre was overcome with an urge to reach out and touch it, just touch the silver, the beads. They were such pretty beads, so simple, so blue, so green. Echoing green, he thought. God, now he was quoting Blake.

"We appreciate your devil's advocacy, *Professor* MacIntyre," Brandon

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said. "But we're standing firm. Somebody's got to stick up for the students' rights—and stick it to the administration—and if it's not us, then who's it going to be?"

MacIntyre got the message. He'd sold out. They didn't trust him anymore. He was over thirty. Hell, he was over forty, he was one of *them.* It was just as well.

"MacIntyre does have a point, Brandon." It was William: leave it to William to stick up for the loser, MacIntyre thought. Maybe he was wrong about all his kids being just interested in holding forth. William seemed to be more amenable to just plain holding. "If we are to do our job, then we've got to keep publishing, and if the administration shuts us down, then we can't very well go about defending the rights of *anyone.*"

"And how in the hell are they going to shut us down?" Brandon asked.

"We're already getting flak from the print shop about the overtime, the production costs. Extrapolate that. Pretty soon they'd set a limit on the amount of pages we could publish, the amount of time and assistance we could get to produce them. Maybe they'd have to sacrifice a couple of those nice new computers you've been playing around on, give them to the library or to business administration, someplace where they're *really* needed. It would all be very much on the up and up—purely a budgetary consideration, of course. But they could do it. Couldn't they, MacIntyre? MacIntyre?"

They were all looking at him, looking at him as his fingers stroked the pretty silver bells of the girl's earrings. He liked the sound they made, a soft tinkling, like a wind chime. A smooth, peaceful sound. The sound of the wind, the color of grass, the echoing green—these were the important things.

"Professor MacIntyre?"

"Hey, MacIntyre?"

It was William, standing in his doorway, his head spiked by a nimbus of afternoon sunshine. MacIntyre rubbed his eyes, the spikes went away, and his student stepped into the office.

"I know it's kind of late to stop by, but I just wanted to see you for a few minutes, to talk to you about something." William hesitated, looked down at the Army rucksack he carried as a backpack.

MacIntyre snuck a look at his watch. It was late, almost five thirty; he hadn't meant to stay at work that long, but his mind had been wandering. Three manuscripts lay before him, none of them read, at least not with any conscious thought. William's was one of them, damn it.

"If you'll give me a minute, I've just about finished reading this," MacIntyre lied. "It's got some good stuff in it, although like most of your chapters, it could use some trimming."

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William nodded, and MacIntyre gave him a good look. The boy was pale, even more so than most of the students who dabbed themselves with clown white before coming to class.

"Is there something wrong, William?" he asked.

"Oh. No." William said.

Worse than I thought, MacIntyre thought. It's the wan, sensitive writer act. He wants me to tell him he's the next great American novelist. He wants to know if he should start coming up with pithy quotes and thoughtful poses for his *Playboy* interview. It was nothing new; MacIntyre had been there himself, although at the time he'd played it cocky to William's coy.

"You're a fine writer, William," he said. "I've told you that before. Why don't you just sit tight and let me finish your chapter and then we can—"

"I'm not really interested in writing fiction," William said.

"You're not?"

"I'm not really interested in anything anymore, to tell you the truth."

MacIntyre digested this. Wan sensitive writer shit, coupled with spring fever. Or maybe a girl. Probably all three.

"So why are you telling me this?" he asked.

William shrugged. "I don't know." He got out of his chair and started looking at the spines of MacIntyre's books, his finger touching the soft covers.

"I just kind of thought you might understand, maybe." He shrugged, pulled out a worn red copy of *The Hunchback of Notre Dame*. He opened it, read for a minute, laughed at something, put it back. MacIntyre sat and watched.

"Do you ever go up to the mountains, up to a lake, MacIntyre?" William asked. "Or to the ocean, do you ever go over to the ocean?"

"To the ocean?"

"Yeah. Just go there and sit on the driftwood and listen to the waves. You know, just how the waves sound and the birds. The way the birds cry back and forth to each other. And there's another sound that gravel makes. The gravel that the waves bring in. Do you ever do that?"

"Well, it's been a while since I've been anywhere, William," MacIntyre said. "I used to go to the coast, back when I was in Oregon. Cannon Beach, Rock Beach. They're tourist traps now—all T-shirt shops and espresso stands—but back then they had some nice stretches of sand. I suppose the sand's still there, along with all the commercialization. No. I haven't been to the ocean recently."

"You know what I'm talking about, though, don't you?" William asked. He was holding *Lolita* now, the paperback copy MacIntyre kept even though what was left of the cover was bound to the rest of the book with strips of yellowed tape. Lucy had given that to him, back when they'd

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first been going out. She'd bought it for him at a used book store, bought it for him because he'd told her over coffee at the little café next door that it was one of his Favorite Books of All Time, bought it for him with all the change she had in the bottom of her purse—all the money she *had,* really—then laughed when he got mad at her and called her profligate.

"You *do* know what I mean?"

William was looking at him, expectantly. Everyone always seemed to be waiting for his responses these days.

"Yeah, I guess I do, William," MacIntyre said. He snuck another look at his watch. It was nearly ten of six. If he hurried with this, he could get down to the Meany Tower lounge's happy hour before they closed up shop at seven. Have a pleasant hour in the dark with some cheap scotch and those bad tacos that they gave away for free. Then make it home in time for *Jeopardy,* some more expensive scotch, and a rerun of a Clint Eastwood movie. It was nothing to speak of. It was only his life.

"Because I just keep thinking about going to the ocean," William was saying. "Going to the water. I mean, what does it matter if I graduate? What am I going to do with it—beg for change on the Ave with the rest of my friends? There's no jobs out there and there's not anything I really want to *do,* anyway. I thought I wanted to write, but that was just infatuation, I guess. Everything always just boils down to infatuation, if you really look at it closely."

"Are you having some trouble, William?" MacIntyre groaned inwardly. He sounded like a bad imitation of Michael Landon on *Little House on the Prairie.*

"Yes. No. I don't know. Is it really trouble when you realize that your life is a lie, that's it *always* been a lie? Is that trouble? Or is it trouble if you see all the signs and you just don't pay any attention? You tell me."

MacIntyre felt like telling the kid that he was acting like a juvenile ass with all this veiled suicidal talk, but he didn't. That would be unprofessional. More than that, that would mean he *cared.*

"Look, William, we all go through periods of self-doubt," he said. "Even me." Even you. Even you. *Especially* you, his mind whispered. "But you just learn to get through them. That's part of growing up."

William smirked. He saw right through MacIntyre, of course. They all did. Why should he listen to *him?* He was a failure, a has-been. Hell, he'd never even *been* a been. God, how he hated these smug little brats!

"I know self-doubt, Professor MacIntyre. This is different. This is more like seeing something that's been hidden for a long long time. Seeing it and realizing that there's something better out there, something better than *this.* Going back to the water, that's what it's all about. Going to Innisfree."

God, why did they always have to resort to Yeats? MacIntyre gave the

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kid's eyes a close look. They looked a little bloodshot; maybe he'd just gotten hold of some good pot. MacIntyre could use some of that himself: it had been a long time since he felt self-righteous enough to quote Yeats.

"William, you've been working pretty hard on the paper and on your book," he said. "And I'm sure you're pulling the same load with the rest of your classes. The quarter's almost over; why don't you get some friends together and drive over to the coast for a few days? Relax, don't worry about school while you're gone, and when you come back, you'll be amazed at how different everything looks."

"I *am* going away," William said. "I guess, that's why I came by, really. To say goodbye."

MacIntyre looked down at the manuscripts on his desk again. Should he respond to this? Should he offer to go buy the kid a drink and try to get him to talk it out, to steer him away from whatever black thoughts had apparently seized him? Or should he just fuck the whole thing off?

"Well, good," MacIntyre said, opting for the latter.

William stuffed a volume back on the shelf. Whitman's *Leaves of Grass*. MacIntyre got a flash of a meadow at four o'clock, Lucy running through it, carrying her shoes, squeaking as she stepped on a burr. MacIntyre had pulled the sticker out with his teeth—all three millimeters of it—had showed it to her, kissed her heel. And then . . . green, nothing but green. His face in the grass, in the soft cotton of her blouse. Green wind. Green smell. Her arms mossy, her eyes pieces of leaf. He kissed her, tasted the chlorophyll on her breath.

When he came back, it was half past six, and William was gone.

The knocking woke him up. It was 11:15, and he was passed out in his chair in front of a rolling TV screen. He could hear Al Bundy arguing with his wife, Peg. *Married With Children* was on already; he had slept through the news again.

"Sal, it's me." Gunderson's voice was muffled by the rain. It was pouring out. Welcome to spring in the Northwest.

"Let me in, Sal, it's raining out."

No shit, MacIntyre thought, getting up. Gunderson probably wanted to talk. About Marti Cavanaugh. How they hadn't really been what you'd call *intimate,* but she surely would have blah blah blah. He was sick of thinking about it. Marti Cavanaugh was off with another man, that was all there was to it. Where else could she be? She loved Seattle, even loved the university, despite all the grief they'd given her over the years. She'd never interview for another position, no matter how sweet the deal. She'd taken up with someone else, and hadn't had the decency to inform Gunderson first, that was *all it was*. Just like Lucy.

"What is it?" MacIntyre said, opening the door. He regretted his tone

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as soon as he saw Gunderson's face. It looked like somebody had stretched out a little kid's face and then let it go. Crumpled. Gunderson's face was crumpled.

"Come on in, Dick. Sit down. Can I get you something?" He glanced at his bottle—three quarters empty. "A bourbon?"

Gunderson nodded. MacIntyre made himself busy for a minute, letting his friend compose himself. Rearrange himself, assemble himself, as Virginia Wolf called it in *Mrs. Dalloway*. Whatever you called it when you had to face people and be able to function. MacIntyre had done enough of that in his day. Just like Lucy, his mind whispered. It had to be another man, what else could it be?

"Here you go," he said, setting a shotglass in front of Gunderson. "Drink that and I'll go get you a chaser."

Gunderson drank it, followed MacIntyre into the kitchen.

"I went over to her house, Sal," he said. "Her papers are all piled up on the porch and there's a week's worth of mail in her box."

He handed Gunderson a glass of water. "You're not supposed to go looking in people's mailboxes, Dick."

"I just peeked," Gunderson said.

"Peeked enough to know she's got a week's worth of mail in there. Any checks? Anything valuable?"

Gunderson looked at him. "So you admit it sounds funny," he said. "That maybe I do have cause for concern?"

"Well, if I were going away for a week, I'd let the paper boy and the post office know," he said. "I will give you that. But not everybody acts like me." He picked up his bourbon, took a drink. Yes, *most* people have some pride. Some dignity. Most people don't mope around for years telling themselves they did the right thing when they didn't do anything at all. Well, you did do *one* thing. That's right. You did do a lot of *one* thing.

MacIntyre took another drink.

"I didn't go in," Gunderson said. "But I'm going to. That's why I came by here. I want you to come with me."

MacIntyre thought. Gunderson was probably acting irrationally here, and he should try to discourage that. But MacIntyre had been having trouble with that rational and irrational behavior thing lately himself. Stroking a female student's earring in front of a roomful of *Daily* staffers was not rational behavior. He knew this, even after consuming a half a bottle of Wild Turkey. Seeing arms up in pine trees was not rational either. Or imagining his long lost wife with moss on her face. Definitely not rational. What would the rational thing be, then, to do in *this* situation?

"Maybe you should call the police, Dick," he said. That sounded rational. He looked for the phone. Saw its tail sticking out from under a pile of newspapers. Sunday's. What was today anyway?

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"I've called them, already," Gunderson said. "This morning. They said they'd send somebody over tomorrow, but that was the earliest response I could get on a missing person call. But Sal, I don't want to wait 'til tomorrow. I want to know *now*. I keep thinking of her inside that house. Hurt. Or something."

Or dead. Or in the arms of another man. That *had* to be it.

"I'd think the police would have come a little sooner than that," he said, picking up the bottle. A twenty-four hour delay seemed irrational to him, he thought, pouring himself another drink. Unless the police had purposefully given Gunderson this night to go over to Marti Cavanaugh's and find what there was to find so that they wouldn't have to mess with it in the morning. Give it to the night shift; who wants to deal with a body anyway? Now there was a rational thought, an insightful thought. He had had insightful thoughts in the past, but nothing like the insight he'd found over the past two years—these last two years since Lucy went away. He congratulated himself, took another drink.

"Let's go then," Gunderson said, heading for the front door. "Oh. Do you have a flashlight?"

What the hell, MacIntyre thought. What *else* did he have to do with his life? He dug around in the cupboard next to the fridge for a few minutes, and then they left.

The rain sobered him up. Or else he hadn't been that drunk to begin with; his tolerance level *had* been going up. At least his alcohol tolerance. He still didn't suffer fools too well.

Fools, like Gunderson. Like himself.

"See, what did I tell you?" Gunderson said, spraying the beam from the flashlight over the porch. Tubes of newspapers littered the faded red planks. MacIntyre stooped and picked up a couple of them, read their dates through the thin blue plastic.

"So maybe the news depresses her," he said. "Maybe she doesn't like *The Times'* new design." He was finding it hard to take all of this too seriously. *And why is that,* his mind whispered? Maybe because it *is* serious, because if it wasn't, Gunderson wouldn't be standing on this woman's porch, looking like an eleven-year-old whose pet duck just got served up with a spicy plum sauce. Looking like *you,* partner, two years ago. Two months ago. Two hours ago.

Gunderson tried the door. It was locked, of course. MacIntyre watched him try it again, then cup his hands around his eyes and peer inside. The flashlight was tucked under his right arm; the light from it made a bright red hole in the glass, like a lipsticked mouth, laughing.

"I can't see much," Gunderson mumbled into the door. "Looks okay inside, though." He dropped his hands, rattled at the door knob again.

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He looked over at MacIntyre. He wants *me* to do it, MacIntyre thought. He wants me to pull some kind of tool from underneath my down vest—a sharpened piece of copper wire, a plastic credit card, something. He thinks I'm Rockford, that I know how to break into houses and save young women in distress. He thinks I'm some kind of hero. *Me,* a hero! That was rich!

MacIntyre looked away, out into the wet blackness. But it wasn't really black out there. It was just very very dark green. The color of five-thousand dollar bills—the advance he could have gotten on a book, the advance all his grad school buddies had gotten—boiled down to a broth. The color of jealousy steeping in a cup for two solid years.

Gunderson seemed to sense that he was not going to pull anything miraculous out of his pocket—not even a dry sip of sympathy. MacIntyre turned back and saw that his friend was at a window now; it was open a quarter of an inch.

"That's breaking and entering, Dick," he said. He felt like the boring kid on one of those made-for-TV after-school specials. Here was a chance to find hidden treasure with the gang from his clubhouse, but all he could think of was the curse of Captain Blood.

"I didn't break anything," Gunderson said, sliding his leg through the rectangular hole. The window had stuck a quarter of the way up. Gunderson struggled in the tight space for a minute, then brought his leg back out. MacIntyre watched.

"I can't fit," he said. He was panting. "Help me lift the window a little more."

MacIntyre obliged him. They busied themselves with exertion for a few minutes; it was good to see the worry leave Gunderson's face as he struggled with a much more tangible problem. The window gave another inch. If only life were that easy.

"I think I can make it now," Gunderson said. MacIntyre looked back out at the trees surrounding the house. When he turned back, Gunderson was gone. He peered inside the house, saw Gunderson's shadow slowly moving about Marti Cavanaugh's lumpy pieces of furniture, past her coffee table stacked with dirty dishes and science journals.

MacIntyre felt like going in after him. Pulling open Marti Cavanaugh's underwear drawer, showing Gunderson the inevitable love letters from DeVries, the hurried signs of her packing. This negligee tossed aside on the bed, that bra and pantie set. Who needed underwear where they were going? The cat food dish would be replaced with a Pyrex casserole overflowing with dry cat food. The litter box would be full of shit. Passion doesn't equal compassion, Gunderson, he wanted to say. She left her cat to fend for itself, same as she left you. Forget her. Forget her.

He stayed on the porch instead. The wind felt good in his hair. A cool,

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uncaring caress, like that of a bored prostitute. He walked toward the trees, let the rain hit him in the face. Cold kisses: they would do just fine, thank you.

He glanced over his shoulder, saw the dull glow of a light somewhere within the bowels of Marti's house. He had been there once, a year ago, a year and a half. She was celebrating her house with a party—celebrating the fact that she'd finally gotten full ownership of it after an ugly, convoluted divorce trial. Gunderson had been smitten with her even back then. Taken in by her blonde exuberance. Everyone had, including MacIntyre. Marti had been in high spirits at her party, talking about the work she wanted to do on the place, the things she wanted to fix.

"Don't mind the bathroom," she'd said, draping a towel over the rust stains in front of the clawfoot tub as MacIntyre went in. "It's not going to look like this forever."

She'd said that about every room in the place, MacIntyre remembered. "The kitchen's small now, but wait until I knock out that wall and add the sun room." "That fireplace is absolutely begging for a facelift."

MacIntyre had stopped asking how the house was coming along after the first few mumbled excuses. Marti Cavanaugh had lost steam, lost interest. Or simply given up. Whatever the case, MacIntyre understood. He'd seen people lose interest in things before.

MacIntyre stuck his head inside the window, noted the newspapers covering the television set, the dirty plates atop those. There were a few chunks of mortar gouged out of the fireplace, cobwebs and a sock half-covering a chisel. Three unopened cardboard boxes of pressboard shelving were shoved against a wall, a Christmas wreath peeking out from behind.

Marti Cavanaugh's living room was cluttered, messy, full of good intentions never brought to bear. Her living room looked like the inside of his head, maybe his soul.

Something landed on the porch behind him. MacIntyre pulled his head out of the window and looked around. A pine cone lay on the red planks. He stooped and picked it up, tossed it in his palm. It bit him with its needles. It was a young cone, really. A stickering, knobby ball. He threw it out onto the lawn and stuck his head back in the window.

"Dick?"

No answer. "Hey, Dick!" he called again. "Everything okay in there?"

Gunderson came around the corner of the kitchen, waved his flashlight around in what MacIntyre assumed was an affirmative gesture, and disappeared again. MacIntyre shrugged and went out to the edge of the porch, looking up at the tall pine.

The rain had slowed considerably; most of the water that fell on his face was drippings from the branches. A drop fell on his mouth; he tasted

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it. It was sweet. He reached up and touched the drape of green in front of him, brought it close to his face, smelled it. It smelled sweet, smelled of Lucy after she'd been back digging in the garden all day, planting some new azaleas or baby Christmas pines, pinching off the withered tops of her staunch marigolds, her sticky-faced petunias; her "little buddies," as she called them. He missed that smell, that moist green smell of dirt and air and needles and Lucy.

The lump that had been in his chest these past two years swelled, moved into his throat. Had her life with him been that *bad?* Had her new lover been that *good?* Why had she gone? Why hadn't he gone after her?

Another pine cone fell, this time hitting him in the shoulder.

MacIntyre brushed the water it left off his jacket, then stooped and picked it up. It was an early cone, just like the other. Wet and hard and prickly. He turned it over and looked at its base, felt it with his finger. It seemed strange for such young pine cones to be falling; the wind hadn't been *that* hard tonight. There was a sound in the tree above him—a gentle rubbing sound, like low laughter in a can, the kind he and Lucy had made when they'd set up their orange juice intercom system.

He looked up, peering into the shifting limbs. It had to be the wind, tossing a branch against the house. The sound came again, teasing at the edge of his senses. A squirrel, maybe?

The wind picked up and the branches began to undulate, a dance of pitch and pine cone, bark and water. A weaving rhythm that seemed to hold him still, watching, waiting. Another pine cone fell, hit the tip of his slippers—God, he hadn't even bothered to put on shoes when he'd left! It didn't matter, though, what mattered was the dance of the branches, the smell of needles, the musk of the chipmunks hiding in their holes. What mattered was the green and the way it called to him, the way he wanted to answer it. What mattered was the shape that slowly formed in the towering pine above him, a shifting amalgamation of limb and leaf, wind and needles.

He could see a face now, peering down at him, an impish face covered in moss, its blonde hair thick with seed. The face had leaves for eyes, and mushrooms where ears should have been. Its skin looked smooth and grainy; it seemed to be made of wood. He watched the shape begin to swing and gambol about in the branches above him, grabbing the hard nipples of pine cones and unscrewing them from the branches, lobbing them down at his feet as it chittered to itself. Bits of clothing clung to its mossy back, a sweatshirt, sweatpants, half a sock, all streaked with dirt. MacIntyre recognized the university's seal on a flap of material that dangled over a moss-covered breast, the nipple a twist of black burl. He recognized Marti Cavanaugh.

* * *

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He had spotted Lucy at a bar in Eugene during his sixth year of teaching there. She had come in with a man in a black leather jacket, the kind of man an insipid women's magazine like *Cosmopolitan* would no doubt call dangerous. Lucy looked unhappy, the man just plain bored. Sal had worked the conversation around until one of his students volunteered some information about her. She was a senior, a landscape architecture major, single, flighty. His student's word. Sal could see how somebody might get that impression of her; she wore her hair badly done up in a wrinkled flowered hankie. She had a copy of some Perry Mason book stuffed into her already-overstuffed purse, one of those old lurid paperbacks with a dead redhead draped across its cover.

Sal had overheard her talking a little bit at the table next to him, making jokes that the man she was with either didn't understand or didn't appreciate, probably a little bit of both. Sal had laughed at one, and she had looked over at him from her table with an expression both offended and appreciative. How dare you eavesdrop on my conversation and thank you so much for doing so, you sweet man. It was the first time he'd ever seen her in the bar, although his student told him she was around now and again. Sal made sure he was, too, and eventually they met and she allowed him to begin courting her.

Lucy had dominated his thoughts from then on. She was sweet, she was funny, she *was* flighty—and he loved that flightiness in her, too, just as he loved the other things: her pet rabbits, her small breasts, her awful poetry ("Oh to be a tree, a rose, those bushes. Oh, to be a stream, a wanderin' through the rushes"), the notes she'd leave him in his car while he was in class—scribbled on bananas or oranges. (Once on a kiwi: he never had been able to read *that* one.)

She was his sweetheart, his soulmate—and his undoing. During the days of their courtship, he hoped to God she would never realize how much he truly loved her, because if it did not frighten her away completely, then it would surely form a small kernel of doubt within her breast. Women wanted to be loved, but they did not want to be loved more than they were able to love themselves. Lucy had been the iceberg to his Titanic, but he tried not to let it show—not during the courtship, not after the marriage, not even after their six years together. He was too afraid that Lucy had her own iceberg floating around out there somewhere, an iceberg wearing a black leather jacket.

Lucy had never told him much about the man, or the circumstances that surrounded their relationship; Sal always figured that this meant he'd hurt her badly. Sometimes he thought he'd hurt her ego more than her heart; he hoped so anyway, although there were days when he knew he was only kidding himself. He would come home from work and find her curled up on their chenille bedspread, a small pyramid of threads

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piled near her hand where she had systematically plucked them out. He loves me, he loves me not, played out with dull peach yarn, rather than daisies. Days like that, she wouldn't talk to him—not *really* talk to him, anyway—and there was nothing he could do to bring her around. He would try, certainly, rattling around the house as if nothing were wrong, talking too loud, telling bad jokes. Maybe if he told her about his dentist appointment at tooth-hurty that afternoon, maybe if he took her to a movie, or baked her a Key Lime pie, or put grocery bags on his feet—maybe *then* she wouldn't look toward the window every time a motorcycle passed the house, maybe *then* she wouldn't start whenever she saw a dark-haired man in leather on the street, maybe *then* her melancholia would disperse. But it never did, not completely, and in retrospect Sal knew it for what it was: discontent. He had seen the same look in the mirror enough times lately.

Lucy had run off with the man in the black leather jacket: that *had* to be it. He imagined them at some sleazy truckstop in the Midwest, the man's motorcycle having broken down on mile 420 of his rebel's tour of Route 66. Lucy would be tired and hot, badly in need of a shower, and pushed into handing over the last of her savings to a leering mechanic with bits of corn dog stuck in his teeth. Sometimes, in Sal's thoughts, the man in the black leather jacket would bat her around, and Lucy would be sitting, crying, alone at a laundromat, oversized sunglasses blocking her swollen red eyes.

Lucy's life would become the makings of a bad TV movie, a movie which would run on the screen in his mind over and over until he was numb. Lucy would come running back to him, her arm in a cast, her hair lopped off in ragged chunks—Sal had read about a man doing that to his girlfriend in a *Weekly World News* article a few months back. Lucy would beg for forgiveness, but none would be forthcoming. Sal would be a rock, knowing that if he gave Lucy more love and support, then she would only leave him again. She'd run off with the man in the black leather jacket because he was disdainful of her, he presented a challenge; he was *dangerous,* whereas Sal was *safe.* Well, Sal would give her a challenge, too. He would never love her, and then he'd be able to keep her forever.

Sitting in front of his television set at eleven thirty at night, his glass empty in his hand, the cum drying on his belly where he'd masturbated yet again to that now-crumpled picture of the woman in *Good Housekeeping* that looked so much like her, his heart locked up tight in the leather valise that had become his chest, he made lots of plans about what he'd do when Lucy came running back.

But they were only plans. Lucy hadn't come back. And now he was

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going nuts, going crazy, seeing people in trees, people with moss on their faces, with mushrooms supplanting their ears.

Sal turned the television set off and sat in the dark, staring at his curtains, the rose-patterned ones she had found in a second-hand store in Greenwood, the ones she *had to have* and then her life would be complete. That had been what she'd told him about the drapes, just as she'd told him that about *everything:* from the pasta maker they'd seen on sale at JC Penney to a double tall non-fat mocha to a pair of gold lamé shoes with four-inch heels ("Well, they're not for *walking,* silly!" she said when he'd questioned their practicality.).

It wasn't just that she had left *him,* it was that she had left *everything*—her job, the house, those *drapes*. And she hadn't come back, ever. Sal had talked to her family—what was left of it, anyway—and neither her flakey sister nor her estranged father had heard from her since the day she'd disappeared. He'd spent months calling landscape companies across the country, looking for a flighty blonde with a hankie in her hair, and only received puzzled responses. Lucy hadn't taken any credit cards with her; her bank still sent statements to the house detailing her savings and checking accounts. As far as Sal could tell, Lucy hadn't even taken that many clothes.

Sal swallowed the last of his drink. There was really only one explanation, and it had nothing to do with black leather jackets and fickle blonde wives. It was the thing that Sal had been afraid of the most for the past two years: the thing he'd been diluting down with bourbon ever since he'd first tasted its sour black essence.

Lucy wasn't with another man, leather jacket or otherwise. Lucy was dead.

At least he would be with her soon.

It was funny, once he made up his mind to kill himself, everything became much easier to handle. Dick Gunderson and his anxieties about Marti Cavanaugh, the weird visions that he had begun to see, the worries he'd had about his drinking problem. Now he didn't have a drinking problem at all. In fact, in two week's time, he could guarantee that he'd never touch another drop of liquor in his life.

The hard part, the thing that occupied his mind more than anything, was trying to figure out how to do it. MacIntyre was not particularly fond of pain; he'd had enough of it in the past two years to do him just fine, thank you. Of course, that was a different kind of pain, a festering pain, drawn out and tortuous as a stomach wound full of flies. Sometimes, he thought that maybe what he needed, what would even things up satisfactorily, would be one *big* pain, one short blast to usurp all that slow agony he'd been through—and that was why he leaned toward a

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gun. He didn't *have* a gun, though, and so he would sit and think some more.

Life went on around him while he did this. William from *The Daily* disappeared, and two of the girls—Angela (the new one) and Sienna (not Cerise or Cyan as he'd originally thought) came to see him, worried about their sensitive man friend.

"They found a backpack full of his clothes and things by Drumheller Fountain," Sienna told him, tears threatening to spill out of her eyeliner-blackened eyes and weave wet crayon trails down the sides of her cheeks. "And nobody's seen him since the staff meeting last week."

MacIntyre told them what he knew: that William was going to the ocean with some friends for a few days. At least, that's what he *convinced* himself that he knew. What good would it do to tell them that William had probably decided to drown himself in the Ballard Locks? The girls felt better for his lie, if it *was* a lie—at least they had left soon thereafter, and basically that was the only thing MacIntyre was interested in. People leaving him alone so he could go about making his plans.

Gunderson didn't come to see him as often, either. It might have been MacIntyre telling him in near hysterics that he had seen Marti Cavanaugh up in a tree with moss all over her face that took care of *that*. Or it could be that Dick Gunderson had finally come to terms with his pain and just wanted to be left alone. Hell, maybe MacIntyre would run into Gunderson down at a gunshop on First Avenue; stranger things had happened.

Like the tie, the one he'd found on campus yesterday.

It was one of those pale yellow ties with small blue clocks that had been so popular a while back, a yuppie tie which exuded success, self-confidence, the kind you might wear with black suspenders and a light blue shirt, the kind he'd seen the boy genius DeVries bopping around in, in these his salad days. The tie had been crusted with lichen and moss, streaked with mud. It had been hanging from a limb on the huge pine tree outside the Communications Building, outside *his* building, as if waiting for him to find it.

And MacIntyre *had* been the one to find it, despite the fact that the campus was combed daily for such garbage by crews of workers in khaki overalls, workers who mowed the lawns, picked up the trash, transplanted the rhodies, and weeded the beds beneath the huge pine trees that towered above them all. MacIntyre had slipped the tie into his pocket as if it were a note surreptiously handed to him by a Russian spy at a conference on quantum physics, slipped it into his pocket and studied it for three hours in the small quiet of his office. Examined it under the lens of the Jack Daniels he now kept in his bottom left drawer. Where had it come from? Who had left it there? *Was* it DeVries's tie? He hadn't

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seen him around campus much lately; in fact, he hadn't seen a *lot* of people around campus lately. They seemed to be disappearing right and left. First Marti Cavanaugh, then William, now DeVries. And Gunderson, too. Where *was* Gunderson, *really*?

If sanity was a parking meter, he thought, his time was fast expiring. It was all he could do to keep plugging in nickels, buying a few minutes here and there in order to face his students, exchange a few pithy quips with his co-workers, and lug home a sack of groceries from the Safeway now and again. MacIntyre wondered where he would get the gun to finish the matter up: he wondered if the tie held his instructions, an answer encrypted within the streaks of mud and pine pollen.

He opened his desk drawer and pulled it out, draped it across the mess of books and papers on his desk once again. There *did* seem to be a pattern across it, the swirls of dirt and globs of birdshit could almost be letters. He poured himself a drink, took it down quickly, closed his eyes, then opened them, trying to see the pattern as if new.

That smear of mud could be a "J": that smudge there an "I." If he were generous, he could almost see an "S" in the crooked trail of a water stain near the tie's blunt tip. He stared at the tie a long time, randomly assigning letters to the bits of debris, the patches of green. In a way, it felt familiar, like he was back in Eugene piecing together a note from Lucy scrawled on a mango or a grapefruit or a clump of grapes. He thought of Lucy, of the way she used to sit on the grass in their backyard in Eugene, sitting quietly cross-legged, her eyes closed, her hair shifting in the wind like the leaves themselves. He'd always wanted to be able to find that kind of rest, but had never been able to join her. There was always something on his mind: papers that needed grading, a book that needed finishing, something. Lucy had always had the ability to forget everything, to enjoy the moment, to lose herself in the simple green peace. MacIntyre longed for that peace; he would find it—or something akin to it—soon enough, though.

He closed his eyes, listening to the hum of the building around him. It was late, most of the teachers—at least those who had finished up their lesson plans for the start of the quarter next week—had gone home for the day. All that were left were the custodians: he could hear a muffled sweeping somewhere outside his door. The sweeping sound grew louder, and he opened his eyes, realizing that it wasn't outside his door: it was outside his window. Chilled, he turned slowly in his chair, saw a drape of green brushing against the glass. The whole window was full of green—despite the fact that the nearest tree was twenty yards away, easy. There was a slow rhythm to the sweeping, a beckoning, like Captain Ahab's arm had beckoned to Ishmael from the side of Moby Dick.

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MacIntyre stared at the branch, at the green, at the shapes that threatened to emerge from within it, shapes that looked vaguely familiar.

"Go away," he whispered to the window. "Please, go away." The window shuddered as the branch pressed against it harder. He heard the groan of glass, the creak of the wood, the whisper of sibilant voices calling to him, calling his name. He saw their eyes deep within the green watching him: he saw their grins, teeth fuzzy with moss, brown lips curled like bark.

Suddenly, there was a ripping sound and a rush of wind and MacIntyre was *amid* it, amid the green. The wet smell of it filled his nose, filled his head. The ungraded papers on his desk disappeared, replaced by fern and frond, sandrush and blackberry and a skittering nest of beetles. The lesson plans were gone, too, as well as the books he had been preparing to review for next quarter's journalism class. His desk was now a stretch of gnarled wood, his only obligation to sit amid the leaves upon that wood. To sit and swing in the wind that rushed around him, the heady wind, so full of life, so full of smell. There, there was a beetle—he reached out and grabbed it, popped it into his mouth. So much more satisfying than the bit of corpulent meat he brought home from the grocery. There, that trail of slime. A slug glued to the end of it. What stories that slime trail told, so much more complex than the awkward prose he read and critiqued for a living. *This, this* was a living. *This* was where he belonged—amid the green, amid the trees, swaying back and forth, chittering away with the others that gamboled about him on the high bouncing branches. He was with them now, with the others: he could see a tattered bit of cloth hanging off a hairy knee, the remains of a Brooks Brothers suit. There was a shoe—a high heel—lodged into the warted crotch of three branches. A shoulder pad feathered the nest of a sparrow; shaggy moss hid the remains of a splayed briefcase. Their spoor was everywhere. *They* were everywhere, all of them here with him, all of them, and he belonged with them, *belonged* with them, wanted them, wanted her, and why wasn't she here, where had she gone, why had she left him and why hadn't she taken him *with* her, oh Lucy, oh Lucy, I'm mad, I've gone mad, don't you see how it sits on my chest and jibbers at me, like a monkey, and I'm a monkey, too, a monkey high in the trees away from the desks and the books and the papers, so far away from all the papers, the wet slug slime papers, rained on and ruined and the dean will have my *ass* for losing all those kids' manuscripts, I promised I'd read them, return them by the start of spring quarter, put them in the drawer just inside the door in A-101, but now they're lost, turned into mushrooms and mud for that hornet's nest, papery nest, papery soft nest, crisp and white and dry, as dry as . . .

. . . paper. Paper. His hands touched the papers in front of him, the

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stapled, paper-clipped, crisp dry white papers on his desk. Papers with black letters marching across them like ants except they weren't ants, they were *letters,* letters spelling out words, sentences, paragraphs, thesis statements, leads, hooks, transitions, everything always came down to transitions. Here was a feature story on the Montlake Bridge tender, here was an investigative piece on the soy burgers they served at the Hub, here was a short story by another hopeful young stylist. Here was so much meaningless, wordy drivel, and he had guided them to it, been responsible for it with his lectures, his rambling, disingenuous lectures, his lesson plans, his pages of reading from Mass Media Law texts. Here it all was, all that his life had become, had sunk to. Paper, dry white paper, full of words that meant nothing, nothing, nothing.

The branches were gone now, the voices as well. MacIntyre sat for a long time, his hands hiding his face, listening for the sounds to return, wondering if the bitter taste in his mouth was really a beetle or just the last tired vestiges of his sanity.

After awhile, he looked up, saw that the window was clear and that it was nearly dark. He stood, still shaking, gathered his papers into his briefcase. He leaned over and shut his bottom left drawer, locking the Jack Daniels away for the night. Better late than never, they said. As he stood, he saw the tie, saw the message written across it as clearly as he had seen Marti Cavanaugh's face deep within the tangle of limbs, calling to him, beckoning him.

In a way, it was like those old Find the Hidden Animals puzzles they used to have in *Highlights for Children.* Or that psychological test the grad students were so fond of, The Maiden and the Crone. Once you knew what to look for, you couldn't *help* but not see anything else. It was unmistakably clear, as legible as rain.

Join us, the message said. Join us.

"Professor MacIntyre?"

MacIntyre looked up from his desk into a pair of charcoal eyes. Sienna stood just inside his door, the fingers of her right hand curled tightly around the handle of the *Jetsons* lunchpail she used as a purse.

"Hello, Sienna," he said, closing the bottom left drawer—the bar—with his knee. "Come in, please."

She sat down opposite him. Despite his late afternoon buzz, MacIntyre noticed how young she looked, how tired, how scared. He wondered if he looked scared as well. Five days ago, he'd gone to Abe's Gun Shop and filled out the paperwork. In two days, at the end of the legal waiting period, he would have his gun. In two days, he would know what scared was.

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"It's about William," Sienna said, setting down her lunchpail. "School starts on Monday and he's still gone, you know."

"Well, he hasn't been gone that long, Sienna," MacIntyre said. "Just what . . . ten days or so. He's probably still working on his tan."

"That's bullshit and you know it, Professor MacIntyre," Sienna said. "William's not at the ocean. He's not lying on the beach somewhere getting a tan. He's not into that kind of . . . lifestyle."

MacIntyre sighed. Why couldn't she leave him be? Why did she assume he cared?

"So maybe he's met somebody," MacIntyre said, coldly. "Maybe he's fallen in love. Or lust. It's been known to happen. Remember Rod Stewart's 'Maggie?' "

Sienna looked blank for a moment—MacIntyre had dated himself yet again—then the look passed. He hoped it would be replaced by hurt realization, followed shortly by a hasty departure, but he was wrong. Sienna sat in his chair quietly, calmly; maybe he'd been wrong about Sienna's motivations. Maybe she wasn't interested in William that way.

"I need your help, Professor MacIntyre," she said. "William is in trouble. Or hurt. Or something. We've got to look for him, find him."

"*We* don't have to do anything," MacIntyre said. "If *you* feel that *you* have to do something, then fine, do it. Go to the police, scour the neighborhood, plaster his picture on every telephone pole and milk carton from here to Tacoma, but leave *me* out of it. I've got better things to do than go chasing after some silly kid who's no doubt spending his spring break puking his guts out behind a cheap tequila bar while his lovesick girlfriend worries herself into a state. William is fine. He's not hurt, he's not in trouble. He's fine."

"What *is* it with you, Professor MacIntyre?" Sienna stood up; her earring was starting to rock again. MacIntyre prepared himself for a big fat helping of righteous indignation. "You act like you don't even *care,* like he doesn't even *mean* anything to you. William was your *student;* he looked *up* to you. He showed you his *book,* for Christ's sake. He wouldn't show that to anybody!"

MacIntyre looked over at the heaping manuscripts piled on his shelf. Five hundred pages of tortuous teen-age self-examination. Lucky me, MacIntyre thought.

He looked back at Sienna. She was stopped, as if in mid-sentence.

"His *book,*" she said in a near-whisper. "That's it, his book!" Her eyes grew wide, started scanning his desk. "Do you have it?" she said. "Do you still have it?"

MacIntyre didn't say anything. What was there to say? This wasn't television, where the clue to a character's disappearance was always

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found in a coffee-stained manuscript. This was *life,* where people disappeared without leaving any clues, where answers didn't come in neat fifty-two minute packages, surrounded by commercials for expensive cars and yeast infection ointments.

"I've read William's book," he said. "There's nothing in there, Sienna."

"Nothing *you'd* find," she said. "*You* don't care. You've quit caring, Professor MacIntyre, but *I* haven't. I'm William's friend, and as his friend, I've got to keep looking, keep hoping. Do you still have it?"

MacIntyre nodded. Yes, he still had the book and oh, yes, he had quit caring. Long ago.

"Give it to me."

MacIntyre paused for a moment. Somewhere in the back of his mind, he remembered a man who would no more hand over a private manuscript that a student had entrusted to him and him alone than he'd chop off his own hand, but that was someone else. Someone with convictions, someone with a system of ethics, beliefs. But MacIntyre had lost his convictions; it was useless following a belief system when he didn't believe in anything, except perhaps for the sure knowledge that he was slowly going insane and that it was welcome, it was most assuredly welcome.

"Sure, have at it," MacIntyre said, hauling the pages of William's book off his shelf. They landed with a muffled thud on his desk. The kind of sound a cheap handgun might make through a goosedown pillow, the kind of sound he'd never hear, except in the muddy shadows of his dreams.

MacIntyre woke in a sweat. He was in bed, sheets and blankets wrapped around his legs like morning glory vines around the trees out back. He kicked them off, looked over at the clock on the bedstand. It was 2:15.

"Christ," he said, getting up. It was the third night in a row he'd done this, and it was getting old. If he didn't get some sleep soon, he wasn't even going to be able to fake his way through his job anymore. He stopped, remembering what today was. Seven working days since he'd filled out his paperwork up at good old Abe's. Can't get your sleep? Well, don't worry, Sal. You'll get your rest soon. Yep, you're going to get lots of rest after today.

He stumbled out to the kitchen and got a glass of water, drank it as he made his way to the bathroom. There was a Post-It note of moonlight on the bathroom door; he opened the door, stepped inside, peed.

The late movie had just ended. MacIntyre surfed the channels for awhile, then turned the television off. He didn't feel like watching any more NRA commercials; he'd *have* his gun this afternoon.

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The Wild Turkey was on the coffee table where he'd left it. He took a drink, wondering if he had any cigarettes in the house. Not that he smoked—Lucy had been the one prone to sneaking a Camel now and then—but it seemed as good a time as any to start up. What else did you do when you had only twelve hours left to live?

"Maybe make a will," he said to the empty room. "Maybe finish your book. Maybe just have another drink." He chose the latter.

He looked over at his office door, trying to remember the last time he'd even set foot in there. Inside, there was a desk, an electric typewriter, some bookshelves lined with good, sturdy reference books; he remembered how diligent he'd been about picking out just the right dictionary, just the right atlas. It was hard these days even remembering what his novel was going to be *about*. The main character had been a man—a troubled man, of course. Nobody wanted to read about anybody *happy*. There had been a women—maybe two—there had been a murder, something to do with logging or fishing or some other typically Northwest occupation.

"But it's not your typical murder mystery," he remembered telling Lucy on one of their first dates. "It's going to rise above that, so that the crime—this man's murder—will be the controlling metaphor for the whole corrupt system. It's very literary."

"I've heard books are like that sometimes," she'd said, giving him a look out of the corner of her eye that let him know that he was blathering on like a pretentious fool, but that she didn't mind that much because she already liked him.

Lucy had never been much for pretension, even with her own stuff—*especially* with her own stuff. She used to call it The Bad Poetry Hour any time he asked if he could read some of her work.

"Oh, is it time for The Bad Poetry Hour already?" she'd ask as he leaned over her shoulder, trying to get a peek at the scribblings inside her spiral notebook.

Her poetry *had* been bad, too. Awful, in fact. He would kill to read just two new lines of it now.

Of course, there was always the old stuff, notebooks full of it, there in his office, behind the door. MacIntyre poured the last of the bottle into his glass, picked up his glasses—not that they would help him much now that the booze was kicking in—and got up. It had been a long time since he'd had a Bad Poetry Hour; he might as well indulge himself one last time.

The journals were where he had left them when he'd moved in two years ago, stuffed into a cardboard box in the closet. He pulled the box out, tossed aside a pair of white peds with pink yarn around the top. He could almost remember Lucy running around the house, trying to find

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them. He found a half pack of Camels, some matches, and the scallop shell she used as an ashtray, and lit one of the cigarettes up. It tasted horrible—stale and dusty—as if he was smoking the contents of an urn. He savored it, nonetheless.

Lucy's notebooks weren't organized in any particular way. There were little doodles on the outsides of them—flowers, bug-eyed monsters, her name written over and over. Occasionally there would be a date, more likely, a grocery list or telephone message—one that he'd never gotten. He picked up a notebook, read a list scribbled along the side:

"Things to Do—Tuesday
*Post office—buy stamps for Sal
*Dry cleaners—blouse, Sal's suit
*Grocery store—English muffins, milk, half and half, tuna, things!"

She never had been able to call them tampons.

Tucked inside the cover, he found a few odd keepsakes—postcards, what looked like a flower made out of a cigarette butt and a wire, old fortunes from fortune cookies—"Courage Is Your Greatest Present Need," "The Future Holds Great Things For You." He unfolded a couple of newspaper articles, one full of domestic violence statistics, the other about a Chicago woman shot in the face for making too many long-distance telephone calls.

He flipped through the pages and began to read, wondering as he did if he were really looking for clues to Lucy's disappearance the way Sienna was no doubt doing at this same hour with William's manuscript. There were no clues, though, not there, not here, only poem after poem about trees, about grass, about the sky and the flowers and the wonder of it all. Lucy loved nature; she didn't exactly do right by it with her rhyme or her meter, but she loved it nevertheless, and her notebooks—all printed on recycled paper, of course—merely bore it out.

"I found a nest built out of straw
Upon a limb down in the draw
And kneeling down, I saw there blue
the eggs of Robin, noble and true."

It was more than awful, it was atrocious—and Sal wept as he read it, as he read all of it.

It would have been easier, he thought, if they *had* been love poems, sonnets to the man in the black leather jacket; at least then he would have a shred of hope that Lucy was still alive—unfaithful yes, but still

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alive. But these weren't love poems, unless she'd run off with Mother Nature. There was nothing here to tell him any more than he already knew. Lucy was gone. Where, he didn't know. Maybe if he'd been less insecure when she'd left, less certain that the discontent he'd seen on her face was a discontent that stemmed from her marriage to him. Maybe if he'd reported her absence to the police, then he'd know something, but he'd been weak. Weak and scared and ashamed. And positive that she had left him for another man. So he'd done nothing—except wallow in self-pity. And now it was too late. For all he knew, Lucy's body was decaying in his old backyard, back in Eugene, killed by some crazy. Maybe even killed by the man in the black leather jacket. For all he knew, she'd been buried alive and had waited for him to save her, hour after hour until her air had run out. For all he knew, he'd killed her himself with his own cowardice.

Sal lit another cigarette, finished off his drink. The tobacco went to his head, dizzying him for a moment. He looked down at his watch; it was nearly four A.M.

"Just get some sleep, Sal," he whispered, standing. "You've got a big day ahead of you, you're going to need it." He grabbed his drink, shut the office door behind him, started for bed, then remembered the cigarette still burning between his fingers.

"Don't want to start a fire in bed," he said. "Too messy, remember?" He opened the front door, stepped out onto the porch. The moon had hidden itself behind clouds; the sky looked bruised and yellow. Like your heart, pal, he thought. Just like your weak, cowardly little heart.

He took one last drag on the cigarette, then threw it onto the lawn. The filter wasn't biodegradable, but what the hell. Some things just don't go away, no matter how much you want them to. Like cigarette butts. And guilt.

"Let's go camping, Sal," she had said to him that week. "Let's go out to the country, out to where it's safe. I really need to get out of the city, to get away. I feel like I'm suffocating here, like I'm choking. I need to climb a tree, Sal; I need to look at a stream. I need to be where things are *right.*"

He'd seen it in her face, the desperation, the fear. She'd needed to get away—to get away *bad*—but he'd been too busy. There had been some kind of departmental bullshit going on; everyone with their nose to the grindstone—or more accurately, up the dean's hind end. He couldn't take any time off, not even a weekend. There had been too many papers to grade, too many proposals to prepare for the following weeks. At first, he had thought she'd gone on without him, packed up her tent and sleeping bag and hiked off into the hills by herself. He had even called around to a few of her friends to see if they knew anything. But her hiking boots

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were still in the closet, stiff and musty now. Her sleeping bag he'd finally given away to the Northwest Center for the Retarded. Better to let somebody get some use out of it instead of letting it rot in the basement.

Rot, like Lucy. Like him.

The wind picked up; Sal turned his face toward it, letting it toss his hair around, like she'd always done. His dizziness had passed, all he felt now was empty. Hollow, like a tree trunk after an infestation of bark beetles.

Something flickered, a movement in the corner of his vision, and he turned to the right, toward the tree that stood there. Not again, he thought. Please, no more visions of people crawling around in the branches. He waited for the sounds, the voices, the beckoning arms, but the tree merely swayed in the wind as any pine should. He watched the graceful dance of its limbs, thought of Lucy's arms, her legs, so brown, so woody. He listened to the whisper of the needles but there were no urgent messages within their subdued chatter. There was only the wind and the green and the wood. He closed his eyes and felt—for a moment—at peace.

When he opened his eyes, he saw it floating down from the branches high above him, spinning and bobbing like a bird, a robin noble and true. It see-sawed for a moment, each arc bringing it closer to him, until it finally landed at his feet, crumpled and delicate as a hothouse rose. Bending, he picked it up, held it to his face, kissed the soft folds as if it were her skin itself.

It was a hankie, *her* hankie, flowered and moist and smelling of trees, of rain and of Lucy, still smelling of his Lucy.

He carried the gun in his inside left pocket, wrapped in the hankie he'd found the night before. For some reason, it made him feel better, cloaking the harsh metal with the fragile cotton square, as if Lucy's hand were closed over his. Even if the hankie might only be a burrito wrapper; it was getting harder and harder to distinguish what was real anymore.

The campus was deserted, although it would be crazy to expect to see many people on a Saturday, even the Saturday before the start of a new quarter. Of course, MacIntyre thought, he *was* crazy, so perhaps he should expect the campus to be teeming with people. But it wasn't. In fact, the campus had been emptying of people slowly over the course of the past three weeks. He wondered if anyone else had noticed their absence, or if he were the only one. Sure, Gunderson had noticed that Marti Cavanaugh was gone, just as Sienna had with William, but there were so many other people gone. Students, teachers, staff. Where had they gone? Why had they left? Had they all gone to Innisfree, to the water, like William? Or had they slowly bled off into the day, like newspapers

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left in the sun? One day they were substantial people, the next they'd started to fade.

MacIntyre took his time walking to the Communications Building, enjoying the quiet of the late afternoon and of the campus, enjoying his last day there. Occasionally, he looked up at the trees, watching the branches move in the wind.

It had taken him a while to decide where to do it. If he killed himself at home, chances were that no one would find his body for days, maybe weeks. The thought of that—the thought of the flies, the stench, the messiness of it—finally tipped the scales. As deserted as it now seemed, there would be *some* people around the campus who would find and clean him up quickly. That was all he wanted anymore, to be disposed of quickly.

He reached into his pocket and felt the gun. The gun was substantial, the gun was real, unlike the doubts that had haunted him for the past few weeks. The promise the gun offered would be a promise kept; he could rely on it, and on nothing else.

He moved on toward his office; the trees continued to sway around him. Pine cones and needles bounced off his heels; he ignored them, just as he ignored the faces in the trees around him. He didn't need the faces anymore; he had what he needed in the pocket of his coat.

Once in his office, though, it took three drinks to take the gun out of his pocket. First, there was the tie still on his desk. Then, there was the rustling against his window, the sound of a woman dressing, the sound of his Lucy preparing for him to join her.

Join us, join us, the message had read yesterday. Today, there was nothing, just dried pollen and ant scum. MacIntyre knew there was no one to join, except Lucy, dead in an unmarked grave down in Eugene. At least by ending his life, he would cancel that debt.

"Take me camping," she had said. "I need to get away. I need to climb a tree and hide in its branches." MacIntyre got up from his chair, the loaded gun slack in his hand. He stared out at the tree before his window; the branches did seem to reach out to him. "Oh, to be a tree, a rose, those bushes," she had written in her journals. She had written of little else in her journals than trees and grass and flowers. Maybe he had been wrong, maybe they *had* been love sonnets, after all.

The rustling sound grew louder and he saw arms beckoning him from the tree beyond his window. So many arms, so many faces there in the green. He saw William now, reflected in the raindrops on his window; he saw Marti Cavanaugh, her blonde hair ratted with seed. They were all out there, he could see them everywhere, hiding in the bushes far below his window, peeking out from the flowerbeds, teasing the squirrels, scaring the bluejays. All of the people who had disappeared, all of them.

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He had heard about them on the news, read about them in the paper. The businesspeople, the children, the housewives, the postal workers. No one ever knew where they went, but now *he* did. He saw them, saw all of them.

His dentist, Dr. Jackson, who had disappeared in the middle of a patient's root canal, he was out there, transformed into a shaft of sunlight. His poetry professor, who had supposedly retired, looked out at him with a face of bark. They were all there, all of the people who had gone away, bled off into the day, all the people who had given up their life of books and briefcases, politics and powerlessness. All of them had gone into the green, the echoing green, the green that pressed down on him from all sides now, all sides, and from inside, too, creeping into his office, reaching out to him with arms, woody brown arms, Lucy's arms, reaching out to him, the voices calling him, calling *Sal! Sal!* join us now, please. Come to us, play with us, live with us in the green where it's safe, where no one will hurt you ever again, where the dangerous men can't find you and make you pay for merely wanting your freedom, wanting your life back again.

Sal dropped the gun and opened the window, trying to hear her better, hear Lucy's voice, the voice that had told him so many times, so many times what she wanted, through her poetry, through her jokes, through her very existence, her very peaceful green existence. Yes, this was it. A truth that he could bear. Lucy hadn't been murdered, oh no. Not by an ex-lover, especially not by her husband's detestable cowardice. No, she had left *willingly, joyfully.* She had gone into the green.

"Oh, to be a tree, a rose, those bushes." Yes, they *had* been love sonnets, yes, there had been someone else in Lucy's life, an iceberg to her Titanic, but not a man, a *woman,* a huge green woman that stretched her arms out to him now, calling to him now, wanting him, as Lucy wanted him, and as Sal wanted her, her peace, her solace, her green. Her green. Lucy had escaped, yes, and he would escape, too. He would join her. Be with her and it would be right. He would make everything right.

He stepped up onto the sill, looking down at the gun. A toy, it was, just a toy with a loud pop. Everything looked small and toyish from where he stood, the campus below him, the people that plodded along on their foolish paths, scurrying about with their watches strapped to their arms, their lives bound up in paper and toil and worry. There was Gunderson, he could see him now, his face screwed up in concentration as he talked with a blonde woman hurrying toward the engineering building. There were his journalism students crowded around each other, slapping the back of a tall tan boy, a boy who would become a man

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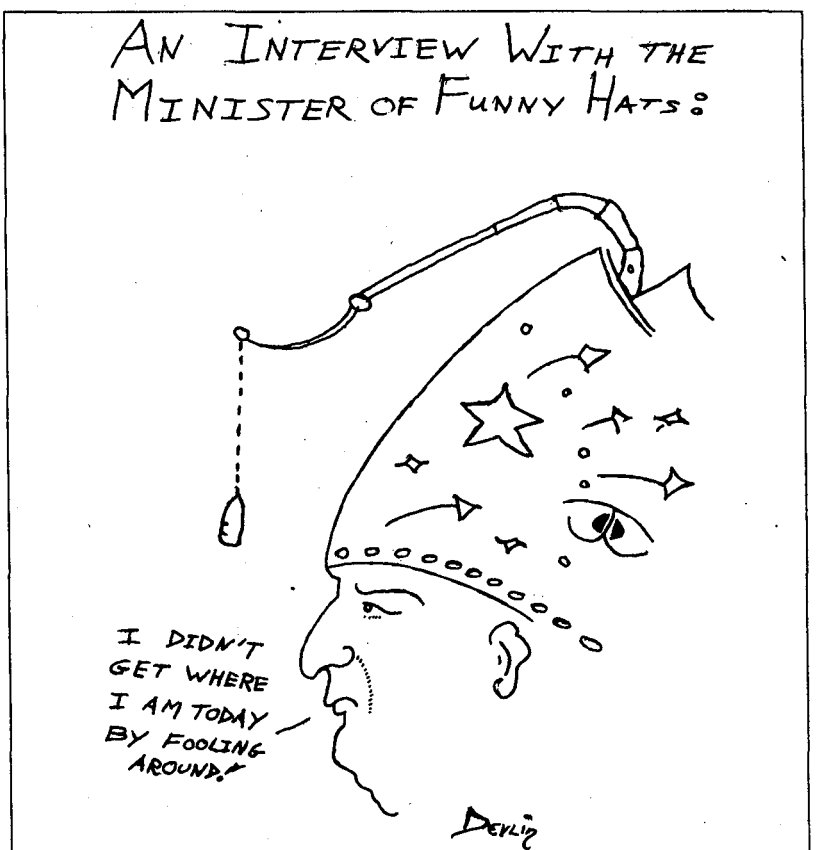
and then would die and then would join her eventually, everyone joined her eventually.

And there was his Lucy before him. Sal reached out and touched the tip of the branch in front of him, touched her hand itself, Lucy's hand reaching out to him, Lucy's face smiling up at him, calling to him, join us, Sal, join us. Everything's fine, Sal. It's fine and good and it wasn't your fault. No, never your fault.

He stepped from the sill and onto the bouncing green branches, felt the rush of wind in his ears, felt Lucy tousle his hair one last time. Felt himself drop unhindered into a deep, green, abiding embrace. ●



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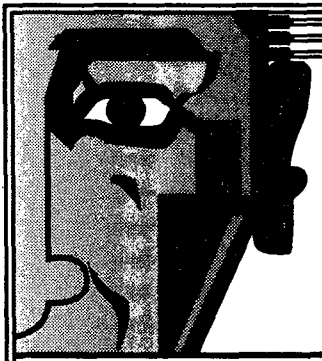

CURSE OF THE CYBORG'S WIFE

This mania to transform himself
bit by bit from man to mannequin,
from tender and responsive flesh
to inert metalloys and polystyrene,
from nerves and veins and tendons,
to wires and relays and nanochips,
remains beyond her comprehension.

Why he should choose laser beams
in place of retinas, antennae for ears,
why he wants teeth and a jawbone
that can grind granite, a stomach
that can digest/process the same,
joints that swivel in any direction,
is something she will never grasp.

As the weight he lowers upon her
increases, as his prowess pierces
her night after night without fail,
as his chill articulated steel digits
dance across her breasts and tease
her limbs, there is no way for her
to guess how long her silence can
survive before she starts to scream.

She only knows that whatever heart
now dwells within his metal chest,
no longer beats like a human one
but whirs like some insect drone,
a glowing rapacious engine heart
powered by his untempered soul.

—Bruce Boston

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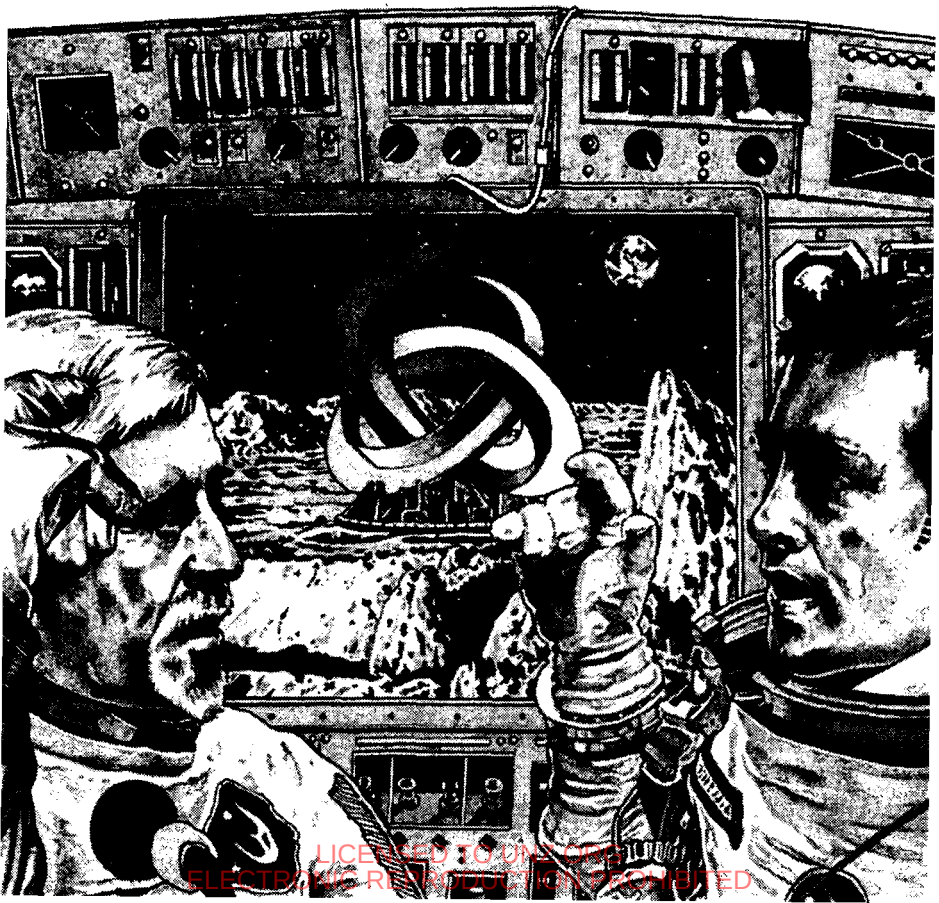
Eliot Fintushel

FILLET OF MAN

Eliot Fintushel is a teacher and performer of mask theater, mime, and "performance art" with more than two thousand shows to his credit. He has twice won the National Endowment for the Arts Solo Performer Award, and he has performed all over North America. His appearances include solo performances at The National Festival, the International Clown and Mime Festival, and the Wolftrap International Children's Festival. Mr. Fintushel resides in Glen Ellen, California, with his wife, Noelle Oxenhandler (who is also a writer), and their young daughter, Ariel.

Illustration by Ron Chironna



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The blue boys call me "Jello." I don't mind; at least I'm clean (which is more than you can say.) The blue boys have a lot to teach us and not much time to do it in. So if I have to be the one to be ragged, I figure it's worth it.

Don't bother to thank me. Don't feel sorry for me either. And I won't feel sorry for you. No matter what we do, in twenty-eight years there'll be half as much to feel sorry about, *n'est-ce pas?*

Remember when the primes first hit Arecibo, the Hubble, and the lunar VLA? The SETI crowd was ecstatic. Humanity was being ushered into intergalactic society, and coming at that moment of history, it seemed like a reward for Right Living.

The turn of the century had brought a close to the cold war and an end to the international munitions racket. The scattered, genocidal ethnic clashes following the death of the Soviet Union had subsided at last, and for the first time in living memory, investment in the environment outstripped military budgets worldwide.

The ozone numbers were sloping less sharply; it became good business to be good citizens. And when dead end munitions money gave place to *moneymaking* money for real goods and services, even the rain forest devastation turned around. It's so much easier to be civil and civic minded when everybody has enough to eat and no one's in anybody's cross hairs.

I was beginning to be proud of being human. Maybe all that horror and mess had just been Earth's middle age crisis. Sure, we had made mistakes, big ones—nobody could deny that—but we had come through it, most of us, still thinking and feeling. Now the otherworldlings were coming to shake our hands, throwing their series of primes at us like Hawaiians tossing leis to the tourists.

"They're the same. The sequence is the same, no matter what number base you choose—binary, decimal, duodecimal—a prime is a prime. It's a transgalactic, inter-species 'Come on in! The water's fine.'" I knew that. The learned professor was just babbling on, elated, as we went into lunar orbit.

"Look, doc," I said. "There's our boys. Visual contact."

"A-OK," he said. I tried not to laugh.

The blue boys had proposed this rendezvous. They had come a long way and didn't want to rush into anything. Nor did we. We had come a long way too, though not in parsecs; maybe we could teach them a thing or two. Maybe they still had wars and pollution where they came from. I, for one, was ready to share what I knew.

Their vessel made no sense to me whatever. It looked like a topologist's diagram of an exploded torus. How could there be room in there for

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anybody, and if there were room, how could they stand up? Or if they could stand up, how could they sit down? Flood it, and a colony of brine shrimp could barely make a life within that figure. But the blue boys knew their primes.

I asked the professor to notify them of our intention to set down near their spaceship. He performed the proper calculations, consulting the tables he'd compiled over squinty-eyed months of sciatica and tinnitus, nose to the computer screen, ear to the radio.

"Well, what do they say? Can we start landing?"

He looked perplexed. "No," he said. "They don't want us to land."

"What do you mean, they don't want us? This has all been arranged. This was *their* suggestion."

The professor scratched his head. He did things like that. He made high pitched sounds in the back of his throat when he was nervous, too. He sounded like a rusted shutter hinge on a blustery day. "They're apologizing now. They're saying they can't let us near them."

"Why the hell not?"

"We're . . . we're unclean."

"Unclean??"

"Well, I think that's it. I think they're saying we're . . . *unclean*. You know, as they've been saying from the start, they can't communicate well through words. They need physical contact."

"I've tried that line," I said. "It only worked once, and I was sorry it did." We had a while to think then, as we cruised around the dark side. When we came in sight of their ship again, I asked the professor to put their signals through the trans-sim, so I could hear them directly.

"It's inaccurate," he protested.

"Nothing personal, doc," I said. "Please."

He adjusted the voice settings and connected cable from the radio. The available technology was far in advance of what we had aboard ship; the professor didn't trust trans-sim and so discouraged investment in it. As a result, the blue boys' voice was Satchmo, and the syntax was occasionally Stengel.

When I said, "Whaddaya mean, 'unclean'?" they said, "Sorry, but if you're not in the market for death, why window shop?"

"What death?" I said. "We got no wars. We're saving the trees. We're on top of the ozone thing." The professor was nodding and flashing me the thumbs up. I winked. "Let us teach you what we know. Besides, I thought this was all set up."

"Sorry. You looked more good from less close. How could we know?"

"Know what?"

"We were only just now able to take a measurement, when you got kissing close."

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"I told you not to use this thing," the doc said. " 'Kissing close'!"

"Measure what?" I said.

"Strontium 90." So that was it! The sins of the fathers! Like every human on planet Earth, a small percentage of the calcium in our bones had been replaced by Strontium 90. Nuclear testing had stopped, Chernobyl was past, no more nuclear power plants were being licensed, but there was a skeleton in our closet—and isotopes in our skeletons, half-life twenty-eight years.

"Sorry!" they said. "We can't risk it, and we can't wait till you reach safe levels. Our fuel supply is limited. Do you happen to know anything about the intelligent life forms in the Andromeda Galaxy? Are they radioactive like you?"

"Wait a minute," I said. "Isn't there anything we can do here? Any way we can get together?"

"Well . . . ," they said, and I said, "Yes." I didn't have to think about it. They sent up the boning crew in lead-lined suits, with glove boxes, and it didn't even hurt. Now, there's a technology for you.

They tell me things by the way they touch me. I ooze freely inside the exploded doughnut of their craft, like a liquefied caterpillar in its chrysalis. Only, my metamorphosis was backward, I guess.

I trust you are making good use of my transmissions. When I return, you won't rag me too terribly for my . . . *enhanced ductility,* will you? I'll explain all their mysteries then, when the blue boys leave, but I'll have to touch you to do it. . . .

There! That's the second time I've used that line. I hope I won't be sorry. ●

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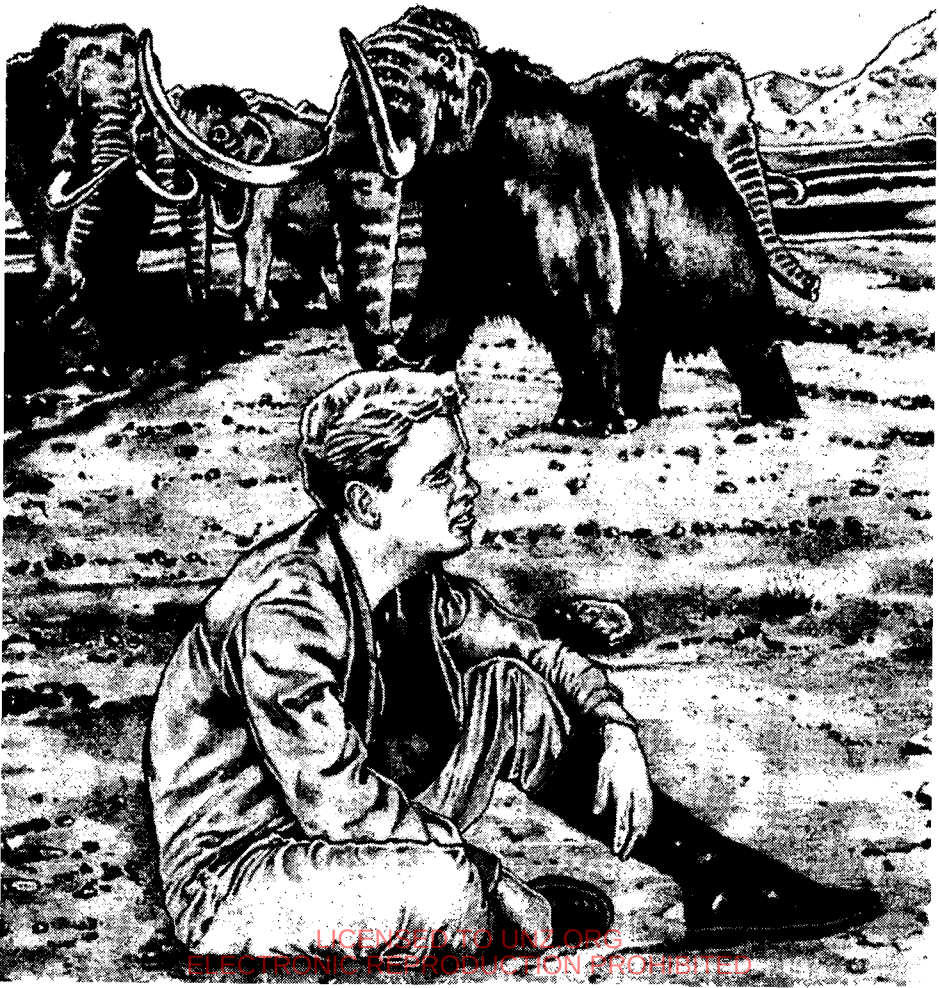
Robert Reed

In the distant future of Robert Reed's breathtaking novella, "Sister Alice" (November 1993), humans could travel distances and wield powers beyond our imagination. In his self-contained sequel, the events of the earlier tale are *vastly exceeded by the awesome scope of . . .*

BROTHER PERFECT

Illustration by Ron Chironna



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Bless the dead!

—Perfect, in conversation

It was the ultimate toast—"Bless the dead!"—and despite appearances, the toastmaster was human. His scaly arm lifted a stone mug, punctuating the word "dead," then his wide mouth managed both a smile and the appropriate bitterness, viper eyes skipping from face to face, knowing exactly what they wanted to find.

Patrons repeated the blessing with sloppy, communal voices.

No one needed to ask, "Which dead?"

The tavern's longest wall was tied to a feed from the Core, from one of the doomed worlds. People saw a night sky that should have held thousands of closely packed suns, bright and dazzling; but instead there was a single blistering smear of white light, every lesser glow left invisible. The light was an explosion. Greater than a thousand supernovae, it was melting worlds and lifeforms, its heat and hard radiation barely diminished by a century's relentless growth.

Unseen against that fierce light, people were being killed.

And people watched them die—people on the Earth, like here; and throughout the galaxy. For some it was an entertainment, grisly but fascinating. But many found no thrill, watching the carnage for deeply personal reasons.

The tavern was in a poor, crowded district. Its patrons belonged to the local race—human frames embellished with reptilian features, a calculated cold-bloodedness allowing them to thrive on lean, impoverished diets. Yet they were far from simple people. They had a long and durable and thoroughly shared history. Pooling their meager savings, they once sent a chosen few to the Core as colonists. A world was terraformed specifically for them—a lizardly eden that these patrons could see whenever they wished, on any universal wall. But that world had been close to the explosion's source, and it was obliterated in an evening. There were too many colonists for too few starships, and almost everyone died, boiling in a rain of charged particles and enchanted plasmas.

Some of these very people had watched the cataclysm from this tavern. And from that awful night came a ritual, a new custom, several minutes of each evening dedicated to the blessed dead.

Viper eyes saw something.

The toastmaster's head locked in place, a wry little smile emerging.

"To Alice!" he shouted.

The wall changed feeds, suddenly showing a plainly dressed woman sitting alone in a white-walled prison cell; and the tavern, in one ringing voice, cried out:

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"To Alice!"

"Give the bitch a long small horrible life." And with that the toastmaster drained his mug, enjoying the raucous approval.

"Horrible," voices repeated, mugs striking mugs.

Then others, in drunken rebellion, roared, "Kill the bitch . . . !"

It was a delicious, much-practiced game.

But the toastmaster broke tradition by taking a slow step forward, wading into the crowd, lifting his emptied mug as his clear, almost songful voice shouted, "To the Families!"

"The Families!" people roared, in mocking admiration.

Then, from the back, a shrill voice cried out, "Kill them, too!"

Nobody repeated those dangerous words, but there was a pause, glacial and strange, nobody defending the Families. All the good *they* had done humanity in its myriad forms . . . and not so much as a kind word delivered as a whisper, in reflex.

The Ten Million Year Peace wavered on the brink of collapse.

Standing among the tightly packed bodies, the toastmaster fixed his eyes on a young man—dull black scales fringed with red; a crimson forehead merging with a sharp golden crest—and he touched the young man with his free hand, feeling the human face with the tips of his long, cool fingers.

Barely flinching, the patron watched as the toastmaster said, "The Families will pay for every crime."

"Every crime," was the chorus. "Make them pay!"

The young man whispered his response, a half-syllable slow.

The toastmaster appeared amused, but the voice was ice, saying, "Make them weak and poor. Like us."

In an instant, the tavern went silent.

The young man straightened his back, glancing at the wall and the imprisoned woman, blue eyes wishing for instructions or inspiration. A flat voice muttered, "Yes."

"Yes, what?"

"Make the Families weak, and poor—"

A claw-shaped blade struck from behind, piercing his skin at the neck, cutting between scales but with no trace of pain. No blood spurted from the surgical wound. The young man spun around, knocking the knife out of the assailant's hand. But more blades appeared, slicing at his legs and butt and back, and despite strength enough to shatter a hundred arms, Ord stopped resisting, going rigid, standing like a statue while his false skin and cool meat were peeled away, falling in heaps around his ankles.

His true face lay exposed, small cuts healing in a moment. It was much like the face on the wall—the prisoner's face—only younger, and male,

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the red hair cut short, warm blue eyes watching the world with amazement and a palpable pity.

No face in the galaxy was better known.

"A baby Chamberlain," the patrons muttered, in horror and shock and with a rising visceral rage.

Ord lifted a hand. With remorse, he cried out, "I am sorry—"

They rushed him, using knives and stone mugs and teeth, hacking at his genuine flesh, pulling it from his strong bright bones. Then with a mob's idiocy of purpose, they soaked the still-living bones and brain in the tavern's inventory, then sabotaged the fire-suppression system, setting a blaze that was a thousand times too cold to murder the weakest Chamberlain. But it didn't matter. For years and years that tavern would lay gutted, left as a monument, and people who hadn't been there would claim otherwise, telling how on that night, in a small but significant way, they had helped mete out justice, butchering and cooking one of Alice's own little brothers. . . !

2

Oh, I can tell you about your sister. . . .

Every human hope and historic truth, every foible and foolishness you can name, plus even the greenest prehuman emotions. . . each of them, without exception, have big homes inside Alice's dear soul. . . !

—Perfect, in conversation

"First," said a voice, "tell me why it happened."

The voice had no source. It rose from the warm blackness, sounding a little angry and thoroughly stern. Ord barely heard his own voice, saying, "It's because I left the estates. That's why."

"You did, but that's a wrong answer. Try again."

"Lyman? Is that you—?"

"Try again," boomed the voice. "Why did this happen?"

Ord remembered the attack and his brief, manageable pains. "They saw through my disguise. I must have made a mistake—"

"Many, but none of consequence. Your costume was well-made, and you were well-prepared to wear it."

"Then what went wrong?"

"I am asking you. Think now."

Ord tried to swallow without a mouth. He was home again, he assumed. An attack on him would cause a variety of alarms to sound, and it would be a simple matter for a brother to recover his parts. Yet what if the alarms had failed? His comatose mind could have been taken somewhere secure, unlikely as that seemed. This could be the beginning of a

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lengthy interrogation, a Chamberlain enemy wanting to pull the secrets out of him. Or, more likely, merely wishing to torture him.

"How did that gruesome drunk find you, Ord?"

"He had to be warned," the boy replied.

"By a sibling, perhaps."

"Never, no." Brothers and sisters might have guessed his plans, but they wouldn't have let others punish him.

"And who would?"

Possibilities swirled in the blackness, one name standing out against the others.

And the brotherly voice said, "I concur. Yes."

A moment later, without warning, Ord had a face and eyes, waking to find himself whole again, new flesh over his salvaged bones. He was sprawled out on his own bed. Even with fresh, unfocused eyes, he recognized his room. Lyman stood in the doorway; Ord knew him by his long hair and the slump-shouldered, tight-faced appearance. Standing over the bed was an older, unintroduced brother, a hand lifting from Ord's chest, a damp warm discharge making the new heart shudder, then surge. "A long while since your body died. Am I right?"

"Yes, sir." The brother had to know his complete medical history.

"Well, we pulled you from the ruins." The Chamberlain face showed a large, self-congratulatory smile. "And we have filed criminal charges, plus civil suits. You broke our rules by leaving home, but then again, they broke everyone's rules by attempting murder." A weighty pause, then he asked, "If people maim, can they expect no retribution?"

"No, sir."

From the doorway, Lyman asked, "Who warned the lizards?"

They weren't lizards, thought Ord. It made him uneasy to hear his brother demeaning them.

"We know the culprit," said their ancient brother. His expression changed by the moment, bouncing between menace and amusement. "And I'm sure our little brother will do what is necessary, when it comes time."

They were clones, all derived from the Chamberlain patriarch. Ord and Lyman were babies, their ages counted in years and centuries. But their sibling might be thousands of millennia old, his face composed of substances more intricate than any flesh. Ancient ones like him were coming home again. After millions of years of wandering the Milky Way, suddenly they had vital work to do here: Diplomatic missions; planning sessions; the allocation of the Family's enormous resources. But repairing a damaged baby . . . well, that had to be a trivial chore. . . .

"Civil suits," the ancient Chamberlain repeated, a gleeful laugh piercing the silence. "Oh, we'll teach these people about pain, my boy. I promise—"

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"Don't," Ord whispered.

Another laugh, vast and genuine.

"I mean it." He made his new body sit up. "It was my fault, and I don't want them hurt."

"And I know you're being honest," said his brother. "I'm laughing because you think you have a voice here. Which you haven't. It's been decided. Our AI lawyers have set to work, and we'll squeeze the last cold credits out of the bastards." A bright little wink. "Someday, Baby, you'll appreciate our efforts."

Ord doubted it.

"Now," said the brother, "thank me for your health."

"Thank you, sir."

"Rest," he advised.

Did a creature like him ever rest? Ord doubted that, too. Then he thought of asking when he would be able to travel the Earth . . . when, if ever, would the children be free to leave the Family estates. . . ?

But the brother had vanished, melting into the floor without sound or fuss. Possibly he had never been there in the first place. . . .

Ord glanced at Lyman, and Lyman returned the expression.

They were babies, they agreed.

What could they do?

"Don't leave *our* estate," was Lyman's advice. "Or else."

An unrepentant Chamberlain might be restricted to a smaller place, in other words. Like the old mansion. Or worse, his own tiny room. When he was Ord's age, Lyman had traveled farther and broken many more rules, but that was before the Core. "Leaving was stupid," he proclaimed, confident in his fears. "For any reason. Dumb, dumb, dumb."

Ord examined himself. In the not-so-remote past, a child who was temporarily killed—regardless of reasons—was given some tiny improvement as a salve for any embarrassments. More mature blood, some enhanced sense. Perhaps even an enlarged mind. But no, Ord felt identical to what he was days ago: An old-fashioned human carriage being gradually improved, century by century, acquiring vast powers at a geologic pace.

It was a tradition, this prolonged immaturity.

It was an essential term of the Peace. If certain humans were to embrace godly powers, then shouldn't they master each power in turn, with patience and an eye on their grave responsibilities?

Ord looked sixteen but was almost ten times older. And Lyman was several times older than him, his body and mind ready to leave home, ready to travel and work in space. A terraformer by training, he was another noble Chamberlain eager to help humanity and the galaxy. . . .

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Yet all new postings were on hold.

"Because of the current situation," one of their elders had promised. "A temporary measure, and a precaution, and for the time being you'll have to be patient, little ones."

With a bitter, impatient voice, Lyman confessed, "I don't understand. You could have gone anywhere, but why *there?*"

Ord had seen the lizard-folk die at the Core, their colorful and lovely bodies igniting as the homes melted around them, oceans boiling and a mammoth scream rising up from the world itself. Horrible, gripping images, and he'd decided to visit the famous tavern, wanting to better understand how their relatives felt.

"And now you know," his brother mocked.

Ord shrugged, seeing no reason to apologize.

Lyman grimaced, looking outdoors without focusing his eyes. "Just promise that you'll stay where you belong." But before Ord could respond, he added, "*They* tell me that I'm responsible for you babies. *They* say I'm your elder, and is that fair?"

New lungs expanded, the air as clean as medicine. "I'll stay in my room for a million years, if you want."

"Maybe you should," Lyman warned him; then with that glum assessment, he turned and walked away, ending their discussion before Ord could spin even larger lies.

The boy climbed from bed, then dressed.

He rode the nearest stairwell to the ground floor. A pair of old beardogs greeted him, knowing his scent—tiny olfactory markers meaning *Ord*—and he equitably patted their broad heads, coaxing them to lay back down and nap. The PRIDE AND SACRIFICE sign was above the auxiliary door. He touched it, as always, then turned and jogged out to the stables.

What could he ride? What wouldn't be too easy or dull?

The stables were cavernous, the atmosphere thick with the stink of fresh hay and fungi, blood stews and cultured blubbers. Its animals came from far worlds and the best laboratories—Chamberlain laboratories—and the smartest of them called to Ord, by name, promising long fun rides, if only he would feed them. A treat before dinner, please?

His urge to ride faltered, died.

It happened more and more, reliable pleasures lacking their old vitality. Still pleasurable, but more as theories than fact.

Past the stables was an empty pen, a vertical pen, built on a cliff face. Goat-like beasts had lived here eons ago, but the elders got tired of rebuilding the children who would try riding them. The pen was empty, Ord stepping between inert fence posts, looking across a portion of the Chamberlain homeland. Noble mountains and artful deep valleys had

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been carved from false granites, pink as meat, and every lesser slope was covered with forests and lush emerald pastures. Deciduous trees showed the first hints of autumn. A rushing river passed a kilometer beneath Ord's toes, twisting its way down to a distant and enormous gray-as-steel barrier rising straight into the cloudless sky. The gray portions were hyperfiber, and above were invisible energy barriers, the entire wall bolstered with eagle eyes and AI paranoids. A few decades ago, not long after Alice's trial, strangers had broken into the estates, carrying weapons that couldn't kill any Chamberlain. Yet the wall was built regardless, in a panic, and, like anything done in a panic, it was full of flaws. Intended to keep invaders out, it was porous when it came to clever and bored Family children. Yet no one had asked Ord how he had escaped. Either they knew and had already closed the route, or they knew and were keeping it open, boobytraps set to catch whomever might try repeating Ord's trick.

Like every Family, this last awful century had terrorized the Chamberlains; but more than others, they deserved their fears.

They were unaccustomed to the sense of menace. It was relentless and unfair. And tiresome. Alice was one of theirs, yes, but there were more than twenty thousand Chamberlains, very few of them—*very few*—involved in the Core's horrible fate. Why blame us? was the general chorus. We aren't Alice; we've accomplished nothing but good for people everywhere. How, how, how can we be blamed for the acts of one odd and possibly senile sister. . . ?

Alice was the most famous Chamberlain. Easily.

She was ancient—a very few generations removed from the patriarch, Ian—and even among Chamberlains, she had been considered remarkable, her talents too numerous to count, vast energies at the ready, and a fierce, unflinching imagination that could never rest. When people of her age and station gathered at the Core, it was Alice who helped inspire them. She revitalized an old idea, asking, "What if we create a *new* universe?" Blending math and mysticism, she showed a workable means. "Do it once to prove the principle, then we can do it a million times again. Everyone can inherit their own universe, their own playground . . . and wouldn't that be lovely?"

Intoxicating, yes. And dangerous.

A prototype universe was produced beside the galaxy's largest black hole, its umbilical held open for too long. The scorching new creation flowed out into its ancient and cold mother universe. Billions of humans and sentient aliens had died in the aftermath, and *would* die, and the galaxy's heart would remain uninhabitable for eons to come.

In a gesture both brave and inadequate, Alice returned home just before her crimes were known. Then she offered herself to the Earth's

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authorities, ordering them to put her on trial. "Punish me," she demanded, "or let me punish myself. Either way, show people justice, and maybe we can keep our Ten Million Year Peace intact."

Alice's arrival was the worst day in Ord's tiny life. For no clear reason, she had taken an interest in him. When it came to explaining her crimes, he heard them first, in graphic terms, and a century of distractions and new revelations hadn't diluted the shock and misery. Alice had showed him the Core's detonation. She made him grieve for strangers, then fear for himself. In a matter of days, she gave the Chamberlains a new legacy, their name suddenly synonymous with greed, waste, and genocide—every horror they were pledged to combat. And now the Chamberlains and the other Families—the chosen and deservedly proud leaders of their species—hid in their estates, or they traveled with a thousand sophisticated security systems in tow. But where were they safe? Ord wondered. They had billions of angry neighbors on just this one continent, and how many workshops were nuclear-capable? What happened if the planet-wide nuke-suppressors were deactivated, then countless crude bombs were thrown over the wall, at once? What if just one of them went unnoticed by the paranoids. . . ?

"Quit," Ord muttered to himself.

He started back into the stables, contemplating choices. There were enemies outside, but there were enemies within, too. Ord knew who had alerted the toastmaster to his presence, and he knew how to prove it. And while he didn't blame the lizard-folk, he felt that this kind of malicious act required a reply. Some sort of reasonable revenge.

He paused before an enormous gate of hyperfiber bars and robot sentries. What lived in the shadows was a minor mystery. A great old sister had left the beast here—no one seemed sure just when—and despite hours of watching, Ord had never gotten one good look at it.

He wasn't looking in there now, thinking hard to himself.

Muttering to himself.

Asking, "How can I punish someone when I can't really hurt them?"

From the shadows, over the sour stink of blood stews, came a tiny voice, close and earnest.

"Let me show you ways," it said.

Then:

"Come closer? Please, please?"

Half of the Thousand Families took part in the Core's disaster. But that didn't mean sterling innocence for the other five hundred of them.

Nuyens had always known about Alice's work, for instance. They didn't help her, but they would have benefited; and when the worst happened,

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they were quick to blame, capitalizing on the other Families' sudden weaknesses.

Never loved, Nuyens became the Chamberlains' favorite enemy. That's why the Nuyens didn't like the sight of a Chamberlain boy dragging a homemade bomb to their front door. Security systems had already weighed the risks, taking every responsible precaution. But to emphasize their displeasure, a modest-ranking Nuyen emerged from the nearby earth, growling, "What do you want here? What are you doing?"

"I want to see your brother. I want Xo."

"Your toy is dead," said the dark-haired figure.

With powerful arms, Ord lifted the bomb and dropped it on its trigger. It struck the pink walkway with a harsh *bang,* sparks flying. And he grinned, saying, "I guess it is," while lifting once again.

The Nuyen shook his head in disgust, then reported, "Xo is coming." And he vanished with an intimidating flash and *crack.*

Xo was once a friend, but Ord rarely saw him anymore and never with much pleasure. He had told that Nuyen about his secret trip, but only because Xo was a coward, and Ord wanted to wave Xo's cowardice under his nose. "I found a way out of the estates," Ord had boasted. "Want to come along?"

Never, no.

With a whispered hiss, the door opened. A puzzled adolescent emerged, asking, "Have you gone stark raving, Ord?"

Ord dropped the bomb again.

Xo didn't flinch. He held himself motionless, then took a long thin breath before asking, "Why? It's not going to work, it never could—"

"It has uranium," Ord countered. "Two kilos of 235."

"But the trigger's shit, and its chemical explosives have been cooked to water and plastic. It can't detonate—"

Bang. Again.

"Atoms vibrate," Ord reminded him. "This way, that way."

Xo had a frail, pitiful face when he wanted it. Watching his one-time friend grunt and lift the bomb again, he said, "So what?"

"The atoms could move toward the same point, all at once."

Xo's eyes grew larger, just a little bit.

"Random vibrations, and they could accidentally reach critical mass."

"Impossible!"

"Possible," Ord replied, "but unlikely." Again he dropped the bomb, sparks flying higher. "Extremely unlikely, but you're worried all the same. Aren't you?"

"No."

"I found your message in the tavern's files. 'The stranger is your sworn enemy—' "

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"Lies."

Bang. "Why did you want them to hurt me?"

"You're fine now," Xo observed.

Again Ord flung the bomb into the unyielding stone.

In an almost imperceptible way, Xo flinched.

"I've always tried to be friendly toward you," the Chamberlain argued. "Not like Ravleen and the others."

"What if I did it," said Xo, in a speculative way. "Maybe it's because of your sister, not you. Because Alice made it so we can't leave home, and it wasn't fair that you did—"

Again the bomb struck, etching out a tiny pit.

"How long will you do that?"

"Until it explodes," Ord promised, his voice level and cool. "I'll get more 235 when it goes bad, and I'll stay here for ten billion years, if I have to—"

Xo shuddered and stepped back, closing the useless door and locking it.

The Nuyens tolerated Ord's presence for only a few hours, then sent home a warning wrapped up in concerned words.

Lyman was dispatched to retrieve his baby brother.

A declaration of war, it wasn't. Yet it was *something,* and even as Lyman tried to scold Ord, his gaze acquired a new light, a kind of black wonder, gazing at the youngest Chamberlain as if for the first time.

3

Last night, for an indeterminate period and through some as yet undiscovered means, our prisoner escaped. We cannot determine her whereabouts or agenda. Our questions are being met with amused puzzlement. Alice herself has raised the possibility of a highly selective, infallible amnesia covering those minutes, rendering our interrogations worthless. . . .

The lone positive circumstance is that she hid her escape from casual viewers. The public saw an illusionary Alice, never guessing that she was elsewhere, and free. . . .

—Alice's jailer, confidential

The trial had lasted for decades.

Nothing in human history matched its importance, drama, or its ultimate anticlimax, a verdict reached by the fairest possible judicial process—judges and jurors from untainted Families and the best of ordinary humanity—and the sentence was accepted by all, including the criminal. Alice Chamberlain would be stripped of her powers, wealth, and enhanced intelligence. Whatever else remained would be locked inside a

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tiny cell beneath the Tibetan plateau, the prisoner permitted few contacts with the outside world. And to ensure that the sentence was carried out, people were free to watch Alice on their universal walls, to see her sitting or sleeping, pacing or shitting, her old-fashioned body—calcium bones and a poor woman's minimal immortality—kept thinly clad, always a little cold because of the cell's nearly perfect refrigeration.

A fair verdict, yes; but justice eluded people all the same. Others had taken part in the universe-building nightmare. Some had died heroic deaths, fighting to stop the Core's detonation or save endangered worlds. But what of the rest? What if some of them survived, then refused to follow Alice's example? Plus there was the issue of civil penalties. Even Alice's wealth was nothing compared to the damages done. Some jurists—nonFamily citizens with modest augmentation—argued that the Thousand Families should make compensations, using some common pool of cash and sorrow. . . .

But what if the Families didn't agree to those terms?

And worst of all, what if the galaxy decided that enough was enough, then tried to wrestle these god-like powers from the chosen few? The Core's little *bang* and misery would be nothing beside *that* conflagration. The Ten Million Year Peace would shatter like crystal, along ancient lines of weakness; and what would happen? How could such a war end?

Alice's trial was finished, and nothing was finished.

That was the only verdict, it seemed. A grain of sand had started down a mountainside, and there was no calculating the shape or scope of the avalanche to come.

Ord was studying, or pretending to study, when he felt a gaze and looked up, discovering the little girl standing in his open doorway. His very first thought was that she was a younger sister. An immature face and body, he noticed. Adult-sized teeth too large for the smiling mouth. Her coppery hair was long and worn simply, and she had a feminine dress ending at her knees, shins pale and feet bare. There was a tangible joy that Ord could taste as well as feel. And she spoke sweetly and quickly, saying, "Come with me, Ord." Saying, "Now. They'll notice I'm gone, hurry!"

He rose and followed, and in an instant he dreamed up a little story to explain her. The eldest Chamberlains, for reasons both simple and complex, had delayed the birth of Ord's little sister. But what if someone hadn't agreed, finding the means to hide a baby girl? She could be living inside the vast mansion, in some secret chamber. And of course she would be interested in her next-older sibling, and shouldn't she want to come see him? Didn't it make perfect, intoxicating sense?

And yet. How could the security systems and watchful elders fail to

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notice her? And if she was so perfectly protected, then how could such a little girl escape long enough to find Ord—?

He ran on rising stairs, strong legs unable to keep pace. The little girl seemed disappointed, glancing over a shoulder, speaking through her long thick hair. "I thought you'd be faster by now," she said. Then, "Little Ord."

Only then, with those last words, did Ord realize how far he had climbed and where she was leading him.

His legs locked in place, in terror.

But the stairs kept lifting him, past the intricate, ever-changing murals where the great and glorious Chamberlains reenacted the past. He begged the stairs to stop, but they wouldn't. His escaped little sister was standing on the top landing, facing him, then stepping back and out of sight, and Ord lied to himself, assuring himself that she was just a little girl and that her keepers must have stuck her inside the abandoned penthouse, knowing that no one wanted to go there anymore. . . .

Ord was deposited at the entranceway. The girl was gone, the massive crystal door was ajar, and momentum, not courage, carried him through the chill gap between the slab and jamb.

The room beyond was enormous, hectares of floor beneath a high ceiling, every surface ripped and blackened, sagging portions of the ceiling held up with braces, and old robots who must have been told to stand there and lift, and wait. Ord turned in a circle, with a dancer's grace, remembering how Nuyens and other officials had once come here, seeking Alice. And she wasn't here. But they had demolished the place to make sure, and nobody had taken time to make repairs. A notorious place, and unclean. The perfect place to hide a secret sister, he told himself. Though he didn't believe that story anymore, no matter how elaborate he made it. No matter how sweet it seemed.

"Quit thinking, Ord. Come here."

The red-haired girl stood in the distance, her back to him and the golden sunlight pouring through a tall window before her. Ord picked his way across the battered floor, barely breathing. She seemed to be looking below, drinking in the great estate—a roar of autumn colors at their height, brilliant shades and tones joining into a vast, fully orchestrated work too large for a boy's eyes, too intricate for even his augmented mind.

Ord would always remember the sight of her, her coppery-red hair, like his, unremarkable against those grand colors. And how the sunlight pierced her dress and revealed her pale new flesh, the body rigorously simple, even plain, sexless and unaugmented, and pure. Why, with everything possible, did she choose that appearance? For the innocence implied? But who knew why Alice did as she did? Not for the first time,

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Ord doubted that his sister knew all of her reasons. She was too large to understand *herself*, and had always been . . . and what an astonishing, horrifying curse. . . !

Alice turned, in a motion faster than Ord could follow, pushing something small and soft into his hands; and with a desperate near-gasp, she told him:

"You've got to save it! They'll destroy it—!"

What? Destroy what?

"I'm pledged to protect . . . fragile . . . it is . . ."

"Protect *what?*" he blurted.

"Brother Perfect knows. Go find him." The quickest possible smile, then she closed his fingers around her gift. "It will help you—"

"Brother who?"

"I trust you," Alice promised, her voice bleak and untrusting. "And Perfect, too. But nobody else, not anymore." Then she was gone again, never quite seen and already lost; and for a long confusing while, Ord stared out at the vista—at the brilliant pained colors of dying foliage—almost forgetting how he had come here, barely aware of the heavy little mystery lying invisible in his new hands.

4

Discreet observations of the Chamberlain home have identified five distinct and powerful anomalous events. Two occurred during Alice's escape, probably marking her arrival and subsequent departure. Two others have been linked to an unofficial visit by Chamberlain 63, presumably here on a mission of strategy and espionage. But most peculiar is the oldest anomaly. It was witnessed several years after our observations began—several years after Alice's surrender—and perhaps it signaled the departure of an ancient Chamberlain whose presence was never suspected. Or it could have been an arrival, which leads to certain obvious questions: Who arrived? And on what mission? And what is this secret Chamberlain doing now?

—Nuyen memo, classified

Alice remained imprisoned; Ord could see her, nothing changed about her cell or clothes or even the stiff way she sat on the edge of her simple cot. But it *had* been Alice in the penthouse, or at least some magical, unknown portion of her. Sitting on his own bed, unconsciously mimicking her pose, Ord felt confusion bleeding into fascination, and when three jailers arrived without warning, excitement. The jailers were from three

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high-grav races, all stout and made more impressive by their black uniforms. One of them gazed up at the camera with an expression struggling to appear in control, at ease. A stiff, formal voice told every viewer, "The prisoner needs to meet with her attorneys, in private. For the next few hours, this line will be terminated. Thank you."

The screen went black, and Ord gave a little gasp.

He wasn't the only Chamberlain watching. An electric murmur passed through the air, pulses marking siblings on the move. From doorless rooms deep inside the mansion came a piercing series of whistles, then an older sister appeared beside Ord's bed, conjuring up a body from light and woven dust, staring at her little brother for what felt like an eternity.

"What's wrong?" Ord asked, surprised to sound so convincingly innocent.

Yet the sister should have seen through him, duplicity bright in his panicky glands and frazzled neurons. And she certainly should have noticed the heavy object on Ord's lap, both thighs depressed by its bulk, its plain oddness sure to set off alarms.

Yet nothing registered in her ice-bound blue eyes. A pause, a prolonged blink. Then again her brother asked:

"What's wrong?"

"Many things," she assured him. Then, "Have you seen Alice?"

"On the wall."

She glanced at the blackness, appearing puzzled. A little lost.

Ord asked, "Why are the attorneys visiting her?"

The sister straightened her back, then whispered, "They aren't. And there lies the trouble."

He waited.

"We have a report—unconfirmed—that Alice managed to leave her cell for a moment, or two—"

"But she *can't*," Ord sputtered. "She doesn't have that kind of power anymore, does she?"

The sister was eager to agree, and couldn't. "An error. Someone's bad joke, perhaps." Pause. "I wouldn't worry." Pause. "And you say you haven't seen her?"

"No."

"Well, then good day, little one. I am sorry to intrude." And without waiting for his good-byes, she vanished with a sparkle of milky light.

Ord felt alone, and watched. Of course they suspected that Alice might come see him. Yet he wasn't asked about his visit to the penthouse, and the mystery in his lap might as well not exist . . . unless they were thoroughly aware, watching him out of curiosity or caution. But that didn't feel right, did it? For no good reason, Ord sensed that he was as safe as possible, under the circumstances.

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What now? he asked himself.

A thousand times, perhaps. And only then did he take hold of the wondrous nothing, examining it in earnest.

Some kind of odd dark matter, he decided. Its surfaces were imprecise and a little cool, then warm. Its density was rather like gold or lead, and with each touch it seemed to merge with his flesh, for an instant, the sensation like something in a sloppy dream. But when he placed it on his room's ornamental pond, on the slickest smoothest portion, there wasn't so much as a dimple made, and he could push it back and forth like a balloon, nothing but his own hands aware of its weighty presence.

Natural dark matter didn't exist in this form. Coagulated; tangible. But with sufficient energies and the proper cleverness it was possible to make the wild particles behave, make them cling to one another and act like normal trusted baryonic matter. These were great technologies, Ord knew. They were the basis for much of his siblings' magic, and nobody understood their limits. Since dark matter was 99 percent of everything—existing in a multitude of useful flavors—there was hope that someday, when necessary, it would prove even more useful than the prosaic stuff that made stars and simple people.

With care, Ord caressed the gift, fingers discerning tiny crenelations, his mind's eye building an improving picture. But what it resembled . . . well, it seemed unlikely at best. A tightly folded cerebral cortex; the underside cerebellum; and the ancient medulla: It was a brain of the oldest kind, human in proportions but nothing like the modern form. Even the lizard-folk, poor as possible, had fancier and tougher versions of the ancestral brains. Fatty flesh and acetylcholine vanished with hundred-year lifespans and mental imbalances. Why would Alice give him such a relic? But of course it wasn't a relic, he realized. It was as modern in substance as possible; and what did that imply?

An affinity for Ord's flesh, and its shape could be a clue, he thought. Several times. But when he acted on that idea, he was shocked to find it valid. The mysterious nothing liked his scalp and began to burrow, exotic particles swirling around the bland ones, passing through flesh and the hyperfiber skull, moving just the right amount, then pausing and aligning themselves, linking in a multitude of ways with Ord's own astonished mind.

An image appeared before him.

Fuzzy, but immediately identifiable.

"Am I supposed to go there?" he asked. No answer was offered. Ord put on hiking boots, then noticed a second pair of boots where he had found the first pair. Using the stairwell, he passed between a dozen

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siblings—modest-ranked Chamberlains wearing frightened, flushed expressions—and he was even less-noticed than usual. Which was a good thing since he was forbidden from leaving the mansion, in punishment for the bomb nonsense. The old bear-dogs at the door might have noticed something when he touched them, scratching their broad heads until sleeping tails began to thump-thump against the footworn stone floor. Then, sensing something too substantial to be a premonition, Ord touched the PRIDE AND SACRIFICE sign, not once but twice, never cer- if what he felt was real or an illusion.

He ran when he was outdoors, eschewing tube cars out of caution. It was a good hour's journey, most of it downhill. Wild birds didn't startle into flight when he passed them. Water splashed and the earth dimpled under him, but each backward glance showed him a smooth brook and muddy banks without a single bootprint. Ord was a ghost, it seemed. He was exactly like his elderly siblings, composed of nothing but thought, and it frightened him, and it seemed fun . . . yet he couldn't make himself hesitate for a moment, much less ask himself if this was what was right . . . whatever it *was* that he was doing. . . .

A child's clubhouse stood on the border of the Sanchex and Chamberlain estates, in a dead-end valley. Built with lumber by boys and girls barely old enough to swing hammers, it had stood empty for almost a century, the Golds disbanded not long after Alice's arrival. That was natural, the children too old for the club's games. Yet a new generation should have come and burned this structure with an appropriate solemnity, then built their own. It hadn't happened because every Family, in view of the times, had delayed their next generations; and the old place had fallen into a dishonorable entropy, its roof collapsing, its wooden floor buckling, and the child-like signatures on the far wall becoming soft and imprecise with many species of rot.

Ord barely saw his own name, second in rank.

Below Ravleen's, of course. Sanchexes *always* led the Golds.

He was looking for Xo's signature when a badger emerged from a hole in the floor, its thick low body reminding him of a jailer's, a sudden *hiss* aimed straight for him. It could see him, obviously. And he growled in turn, causing it to slip out the back door, toward what should have been a high raw wall of slick granite. But the wall had vanished, replaced with a long valley and a meandering brook, plus trees not as tall as seemed right, or as broad, or generally as healthy, their leaves in autumnal colors too but all too drab and haphazard to belong in a Chamberlain wood.

"Hello?" Ord called.

Birds flew in terror. Save for some kind of jaybird that perched on a high branch, cursing Ord for trying to steal its acorns.

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"Hello?"

No human answered.

A narrow dung-marked game trail led across the brook, and here he made deep bootprints that filled with swirling brown water. Now and again he shouted, "Hello!" A noisy indifference filled the woods. Finally Ord thought to say, "I'm looking for someone," and then, "Brother Perfect," and his answer came in the form of a skin-clad figure stepping from the shadows, almost from underfoot.

"And who is doing this looking?" the figure asked.

He was a Chamberlain, Ord saw. No telling which brother, but he felt disappointment and a jumble of doubts.

"And if you don't know who *you* are," the brother continued, "maybe you can remember who *sent* you here. How about it, my boy?"

He was Ord, and nobody sent him. He claimed. The brother appeared shorter than him, but stocky in a strong, comfortably fattened way, his red hair matted and tied into a ponytail, a thin red-and-snow beard obscuring the famous Chamberlain jaw. It wasn't an impressive body, conjured or not. But the trousers and heavy vest were remarkable, made from sewn skins and mended with dirty lengths of gut and hemp. A leather belt held several elegant stone tools. One pale hand held a spear by its blond shaft, its long folsom point drawing pointed stars in the air between them.

"And who are you?" asked Ord.

"You wanted someone named Perfect. Maybe that's me."

But no Chamberlain had that name. It would be cruel to saddle their own with such an outrageous boast—

"You know every name, do you?"

"In order of birth, yes. And I know a little of everyone's biography."

"What a gruesome waste!" The stone-age figure broke into a laugh, shaking his head in a blurring motion. "Which anal-retentive child-of-Ian dreamed up that waste of neural capacities?"

Ord couldn't guess who.

The brother cursed, laughed and said, "So you're the Baby."

"Pardon?"

"The Baby. That's your nickname." A pause. "Are you familiar with the concept of nicknames—?"

"Yes."

"Then I've given you enough of a clue. Come. Hurry on now, Baby."

Ord tried to ask where he was, where they were going, and why the woods looked wrong. But the brother, whomever he was, had walked away, bulling his way through the tangled landscape. Ord had to run in pursuit, catching him as they splashed across the brook. "Is Perfect a nickname?"

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"Oftentimes." The left hand gestured, its two smallest fingers missing, the wagging stumps showing no sign of regrowth. "Have you ever known someone you'd like to call Perfect?"

Maybe.

"To make them angry, of course. Am I right?"

Ord ignored the question. "I deserve to know where we are—"

"In the estate, of course. Embedded inside the granite." He kicked and stomped his way through a wall of vegetation, thorns leaving bloody sketches on his exposed arms. "A clever little house of mine, don't you think?"

"Why am I here?"

"No, Baby. It's my turn to ask the question."

He hated that name.

"Humans," said the brother, "have lived for twenty million years. As apes, then as simple souls. And finally, less simple. But now, if you were pressed to decide, when would you claim that we had reached our peak? Our grand climax? Today, perhaps? Last week? When?"

"Who are you?"

A sideways glance and grin, then the brother stepped through a wall of golden leaves, branches rushing back into place, conspiring to make him vanish.

Ord hesitated, wondering if he should flee.

From behind the leaves, a deep rough Chamberlain voice said, "Humans. Peak. Give a shot, Baby!"

Stepping through the wall, Ord saw an abrupt hillside and a simple cave worn into its face. The rocks weren't false granite; they were limestone. The limestone was encrusted with fossilized crinoids, thousands of the flowery animals laid into the fine dead sediments. This was a caveman's camp, the air stink of old fires and tainted game, and the brother seemed at home, setting his spear against the cave's broad mouth, then turning to say:

"My given name? It is Thomas. Thomas Chamberlain."

No. Impossible. . . !

"And since you won't guess, I'll tell you my choice for our species' crowning moment." Thomas laughed easily, then said, "They were the final years of the final ice age, when we were expanding across new continents and wild, unmapped seas." Another laugh. "You look doubtful, Baby. But consider this: There weren't many of us, and each of us was important. A few million modified apes, each of us armed with stone and wood, and our cunning, and our mobile little cultures . . . and we came to rule the entire green world. . . !"

Trembling, Ord stared at his ancient brother.

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"And you know what the world was then, don't you?" A quick, disarming smile. "It was the universe. It was *everything*. A vast globe encompassing every imaginable beauty, and it was set inside a sea of ink and tiny, unimaginable stars. And it was *ours*." A wave of the maimed hand. Then, "Do you know my opinion? All the history since, every human venture . . . everything has been one long and frustrating and absurd attempt to regain those glory days!"

And with that pronouncement, Thomas broke into a thunderous laugh, a sudden rain of golden leaves falling on them, then swirling, vainly fighting the urge to settle, to die.

5

Alice gave me that lance of a nickname.

I was a new adult, proud of my augmentation and promise, and she was a very young, relentlessly mouthy child. I would talk at length about all the good I would be doing—for the Family; for all people; for all time—and she'd growl at me. She would say, "Oh, you think you're the perfect Chamberlain. The very best. But you're the same as us, brother. Brother Perfect. Oh, yes, you are. You are, you are. . . !"

—Perfect, in conversation

Alice—the great and infamous and bankrupt sister—was the twelfth Chamberlain. Ord, in contrast, was the twenty-four thousand, four hundred and eleventh pearl on the string. And he knew that Thomas was Ian's eighth clone, meaning his designation was Nine, which in turn meant that he was almost exactly as old as Alice and Ord combined. If this was indeed Thomas, of course. Which seemed a preposterous idea, a thousand history lessons recalled in an instant and this skin-clad figure nothing like any of them.

Chamberlains were terraformers, by and large. But Thomas was an oddity who built little but loved to explore—a god-like wanderer whose passion and genius were to find and befriend new alien species.

Uninterested in alliances of trading links, Thomas left those blessings for others. The bloodless Nuyens, for instance. By the time Nuyens would flock to some newly charted system, eager for technologies and clear profits, Thomas would have struck out into the wilderness again, chasing radio squawks and free oxygen signatures until he found another wondrous species. Or found nothing. Because as any halfway educated person knew, intelligence arose infrequently in the universe, and imper-

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fectly, and judging by the assorted war-killed worlds, it was a fundamentally perishable form of life, too.

But the Milky Way had been explored in full now, from its Core to its faint far ends, and Thomas had gone elsewhere. "You're exploring the Andromeda Galaxy," Ord told the caveman. "The Families sent a mission. They left more than a million years ago."

"They left, but did *I*?" The brother chuckled.

Ord said nothing.

"The truth? At the last possible instant I suffered a chaotic change of desire. Instead of embarking on a great adventure, I decided to chase privacy and self-reflection. Which is my right as a sentient organism, and don't give me that disappointed glare."

He didn't know he was glaring, stumbling into an apology—

—and Thomas interrupted him, every affront forgotten. A cackling laugh was followed by an offer of meat, dried and hard and frosted with limestone grit. "Mammoth," he warned. "Chew harder," he advised. Then, "What's wrong? Doesn't the flavor intrigue?"

Not even a little, no. But Ord made himself eat, as if to prove something. When the last gob of leather was in his belly, dissolving in acids and microchines, Ord felt the confidence to say, "I don't believe you are Thomas."

"And why not?"

"I've been around Alice, and this doesn't feel the same. Being with you, I mean." There wasn't the sense of vast energies and intellect, though Ord mentioned neither quality by name. Nor did he say that Thomas looked bizarre and acted the same, laughing too often and never twice with the same sound, the oddest things amusing him without fail.

Like Ord's doubts, for instance.

The brother turned red-faced, laughing for a solid minute. Then he gasped, coughed into his maimed hand, and asked, "How is dear Alice? Is her trial just about finished?"

"You don't know?"

"On the whole," he confessed, "current events bore me."

Incredulous, Ord couldn't summon any response.

"My guess is that they found her guilty."

"Yes."

"Good for them." The smile was winsome, bittersweet. "I told her, told her, *told* her not to fuck around with that nasty work. But you've met our sister. You know how she can be—"

"She's jailed. They've stripped her of everything."

"As is right," said the possible Thomas.

"But then she escaped—I don't know how—and came to see me. . . !"

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Delight shone in the blue-gray eyes. "And she wants your help, does she? Some conjured chore just for you?"

"I have to save something. I don't know what." A long pause, then he added, "Brother Perfect is supposed to help me."

"Oh, is he?!"

Ord nodded, not certain how to respond.

"Alice appears out of nothingness, expecting obedience." A grimace, a leering smile. "What they should have carved off our sister are her bossy pretenses. I think."

Perhaps so.

"Can you give me one good guess as to your mission?"

"Don't you know?" Ord asked, in horror.

Thomas stepped closer, his maimed hand lifting, touching the boy on the temple, the whole fingers dipping into his scalp for a chilling instant. Then with a slow, careful voice, he asked, "Do you wish to help, or don't you? Yes or no." A pause. "*Yes* and we embark. *No* and I send you straight home."

"Embark to where?"

"All things considered, not far."

Ord saw a cracked tooth in the narrow smile. "I want to help," he confessed. Then, "If it accomplishes something good—"

"Tell me yes, tell me no. I'll leave the worthiness for others."

Ord said, "Yes."

He said it three times, his voice strengthening, acquiring something that resembled confidence. And Thomas began turning with the first *yes*, vanishing into his cave without a sound or a backward glance.

Ord followed.

Thomas was working in the gloomy half-light. The cave walls were adorned with charcoal bison and ochre ponies. Ord touched one of the stiff-legged ponies, deciding that with the same tools he would be at least as good a painter as his brother.

Thomas was cramming gear into a leather knapsack, no room left for the smallest charm. With a creaking of rope and skin, he lifted the pack to his shoulders, making adjustments, grimacing with conviction as he remarked, "You're better than me at many things, I suppose."

Like Alice, he could read a boy's mind.

Waving his injured hand, he said, "See? No new fingers growing."

The stumps were blunt and calloused, all right.

"You could make them if you wanted," Ord objected.

"Ah, but then I'd forget to be careful when I find a dire wolf hanging in one of my snares." A wink. "Scars are reminders, Baby. They remind me that dire wolves can be tricky bastards."

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An adult Chamberlain—any adult—could look inside an animal, measuring its health and intentions. Particularly if the animal was part of an elaborate illusion built by that adult. But what adult wanted to live inside an ugly cave, much less hunt with snares and spears? Ord's best guess was that this caveman existence helped masked Thomas's presence inside the estates.

"Perfect," said his brother, again reading thoughts. "That's Alice's name for me, and it's good enough for us."

A blink and nod. Then Ord said, "Then I'm not Baby."

"Fair enough." And with that Perfect walked into the sunshine, at a brisk pace, grabbing his spear and singing with a loud, out-of-key wail.

Ord followed, ignoring the landscape. It was all an illusion, and he assumed they were walking toward someplace close—as promised—and answers would come in short order. He barely noticed his brother's sour songs, concentrating on his excuses for disappearing. Imagining Lyman, he tried half a dozen stories, each involving the old clubhouse. He had sneaked off to meet a girlfriend; why not? He'd already had a variety of adolescent affairs, mostly with friends from the Golds. Wasn't that kind of subterfuge permitted, even encouraged? For a long happy while, Ord imagined meeting Ravleen at the clubhouse. Sanchexes were great warriors and inspired lovers, it was said, and he practiced his lustful daydream until it tasted real, until there was a hint of boredom clinging to it.

Thomas—*Perfect,* he reminded himself—took them up a mountainside, through trees noticeably shorter, and barer, as the afternoon passed. The summit was sharp and raw, no mansion built upon it. They climbed past a single greenish boulder, then dropped into a grove of blue-black spruces. With stone tools they cut boughs for bedding. With flint and dried wood they made a sputtering fire, and Perfect held his imperfect hands to it, catching some portion of its tiny heat.

Ord asked why he lived this way. "You sing out of key. You don't paint particularly well. And you get cold." He listed the items as if they were symptoms of disease. "And you won't even regenerate a simple finger, will you?"

"I'm not cold," Perfect protested. "And when I am, I'll pull my robe out of my pack."

Ord was comfortable. As the sun set, his flesh generated its own internal fire. Yet he held his hands to Perfect's fire, remarking, "Alice wouldn't live this way."

A laugh, insane and infuriating.

Then, "From what you've said, Alice might be thrilled to live this well now."

That wasn't what Ord meant, and both knew it.

"Let me tell you about our dear sister." Perfect pulled dried meat from

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his pack, offering none to Ord. "Every fancy skill, every energy source, all that godly garb . . . Alice wanted them. Always, always. Everyone's that way, in their fashion. But she's about the worst, and I'd like to think, with a good Chamberlain modesty, that I'm the best. I acquire only those talents that I absolutely need, and if I'm wrong, I give them away again. To Alice, in some cases."

"Augmenting your voice . . . is that too fancy. . . ?"

"Oh, I sing, and I like singing. I just do it badly." Another laugh while he chewed on the inedible mammoth. "Everything I do I do with joy and within my limits, and that's all I want."

"But you didn't even know about the trial," Ord complained.

"If something truly important happens, I'll hear about it." A little wink. "But you're right, I'm not tied to the universal networks. And I don't know ten million languages. My mathematics are useful, no more. My senses are good enough, no more. And my strengths fit the job of the moment." A soft slow laugh, then he added, "In case you haven't noticed, my humor is simple. Maybe even a little crude. Which suits my needs fine, thank you."

But why? Ord kept thinking. Why are you different?

"My moment of enlightenment?" Perfect waited for his brother's eyes, then said, "Eons ago, I was sitting beside an alien sea, in my best godly fashion, and this fellow happened to stroll past me. Do you know about the Brongg?"

Bipeds, vaguely fish-like. A home world with methane seas and water-ice continents. They were the oldest known intelligent species, and Brother Thomas was the first human to meet them.

"Very good," the caveman offered, giving a little chuckle. "Anyway, this little fellow was walking Brongg-fashion, meaning syrupy-slow. When he saw me he gave me greetings and stopped to chat—the Brongg are great talkers—and eventually I learned his identity. He was famous. Ancient beyond belief. I was a baby, barely a million years old, and of all the creatures I have ever met, he seemed the most genuinely happy. A billion years of happiness walking on the beach, carrying nothing but a simple ice lance—he was fishing, Ord—and I've always held that lesson very close to my heart."

They were a cold, cold species, Ord knew. The Brongg had wondrous technologies, but they did little with them. They traveled sparingly, reproduced slowly, and were as alien and bizarre as anything humans had ever found. How could they bring enlightenment?

Perfect didn't answer that thought. Rising, he pulled the promised robe from his pack, the rich fur and glossy, sewn together from smaller furs with a certain artless skill.

"Why did you come back to the Earth?"

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His brother lay down beside the fire, a bent arm serving as a pillow. "I was asked to come," he muttered. "Someone appeared without warning, gave me my marching orders, then framed it as a request before she vanished again."

Alice.

Perfect gave a sleepy nod, eyes beginning to close.

But before he could sleep, or whatever state it was, he heard one last question from a confused little brother. "Are we still in the estates? Because I'm forbidden to leave them—"

"Watch the sky," Perfect advised.

Ord obeyed, his heated breath rising toward the night's first stars. They were the right stars in the right places, but where were the planets? And the starships coming and going? Glancing to his left, he saw the green boulder on the summit become a smooth green globe, and the mountain beneath it evaporated, and the stars brightened and multiplied in the sudden vacuum . . . and a thousand lessons in terraforming told Ord what he was seeing.

Gazing at the green world, he whispered, "Neptune."

Against all reason, in one afternoon, he and Perfect had hiked their way to the chilled edge of the solar system.

6

You will be stripped of possessions, money and mind, and each of your works will be assessed on a case-by-case basis. Worlds terraformed in good faith, by legal means, will be spared. But illegal worlds will be sought out and destroyed by whatever means are deemed humane. . . .

—from Alice's sentencing

Ord watched Neptune, wonderstruck by its presence. Because it was genuine, he sensed. No illusions involved. This was the modern Neptune, terraformed in increments by many people, including Chamberlains.

Including Alice, in her youth.

Technical details buoyed up out of his augmented memory. Small gas giants of this class had their volatile gasses shattered, hydrogen sequestered inside the deep core while metals and silicates were pulled up in its place. Airborne continents were grown, floating on giant vacuum bubbles. The new atmosphere was nitrogen and helium, sweet oxygen, and the vital trace gases. Light and heat came from fusion, each world capable of fending for itself. An area many times Earth's was made habitable, at a profit, and with modern methods, an Alice-class human could finish the essential work in less than five thousand years.

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Why were they here? he asked himself.

What was special about Neptune?

But despite his questions and the lousy bed, Ord felt himself drifting off to sleep, dark and dreamless, then woke when the blunt end of a spear was jabbed into his ribs.

"Time to leave," said a distant voice, with urgency. "They know you're missing, and you're making them afraid."

The sky was cobalt blue, another false sun washing away the stars. Ord rose, attempting to ask every question that he had thought up last night. Words came in a rush, then he faltered. Then Perfect was walking and Ord was walking beside his brother, step for step; and a sensation, bizarre and indescribable, made him mutter, "What's happened to me?"

"You've been altered, a bit. Alice began the work, and I did some tinkering last night." The profile was weathered, sober. "We've rebuilt you as quickly as possible, under these circumstances—"

"What's wrong with me?"

"If you're like me, nothing." A bleak, oversized laugh. "The truth? Part of you is a starship. You're built from dark matter and magic, and your engines are an exotic inertialess drive. Your hull is invisible, we can hope. Legs and lungs, and your skin, are projections based on your own expectations." A second smaller laugh. "Despite appearances, we're actually moving at very nearly lightspeed."

Ord snapped, "I don't believe you."

"That's probably best, all things considered."

For an instant, Ord felt the man speaking to him in many voices, most of them in convoluted technical languages that some new, unexpected part of him ingested without fuss, without hesitation. But what made him panic was the sudden sensation of his true self: Huge and ghostly, suffused with liquid energies beyond almost any human's experience.

He tried to walk slower, and couldn't.

"For the moment," said Perfect, "I will operate your legs."

Ord crossed nonexistent arms on his facsimile chest. "I want to know where we're going."

Perfect squinted, as if he could see their destination. In the illusion, they were marching down a verdant mountainside, birds and other phantoms calling out as they passed.

"This is illegal," the boy gasped.

"Immoral," his brother agreed. "And cruel. And dangerous, too." That brought genuine pleasure, bubbling and warm. "But when a famous criminal came to you, did you tell the authorities? When she slipped you a mysterious object, did you say, 'Look here, everyone! Look what Alice gave me!'?"

Ord was weeping. Sobbing.

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"For now," said Perfect, "we're traveling to the Oort cloud."

"Then where?"

"Let's reach the cloud first," his brother replied. "That way if you're caught, you can claim to have been kidnapped—"

"I am kidnapped!"

"Good attitude. Keep it up."

Ord never would have agreed if he'd known . . . if he'd been given any hint of what was involved . . . crimes accomplished, grave danger implied. . . . an insane journey away from the safety and comfort of home. . . !

A five-fingered hand patted Ord on the back.

"You would have balked, yes. But out of fear and ignorance. That's why I framed the question as I did: 'Do you wish to help?' You do or you don't, and both of us know you do. You can't help but want to help, which is an honored old Chamberlain curse."

The boy tried to collapse. And couldn't. He felt limp, half-dead and wracked with miseries, uttering a great long sob before asking the perfectly reasonable question:

"Why me?"

"My question too." A weighty pause, then another useless pat on the back. "Perhaps Alice wants you because you're the baby. Perhaps it's as simple as that."

Ord barely heard him, his mind collapsing in on itself.

"We Chamberlains love closure, that sense of being *done*. That's why we build exceptional worlds. Durable, full-bodied biospheres equal to three billion years of raw evolution."

What was he saying?

"The last Chamberlain is sent on a great mission by one of the first." Perfect clucked his tongue but didn't laugh. "It's closure, and it feels right, and maybe that's all there is to that. Despite its source, the decision could be that simple."

They crossed billions of kilometers, and the country, befitting some odd logic, grew colder and drier, forests replaced with open steppe populated with herds of extinct game. Giant bison and woolly mammoths grazed beneath a weakening sun. In the distance, looming like mountains, was a blue-white glacial mass. Sometimes Ord noticed human hunters in the distance, some of them walking, some standing in one place, watching. Watching for us, he suddenly realized. They were symbols meant to mark other ships, but even the nearest of them couldn't find the brothers.

Ord quit weeping, forcing himself out of self-pity. In a choking voice, he asked, "Why do you travel this way?"

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"In ancient times," said Perfect, "travelers onboard steamships and starships would pin photographs and holos to their cabin walls. To remind them of comfortable places, of course. To give their eyes something other than empty water and space."

Ord found himself listening, glad for the voice.

"Space bores me," said his incredible brother. "Hard vacuums and the ancient cold play on my nerves, if you want the truth."

Ord felt the vacuum surrounding him. It was a thin chill stew of virtual particles, and it felt like a light winter breeze.

He asked, "How long were you hiding in the estate?"

"I followed Alice home from the Core, a few years afterward."

"Because she wanted you to come? Is that the only reason?"

A mild quiet laugh, a wisdom implied. "You aren't the only person whom our sister has bewitched."

Questions, like virtual particles, appeared out of nothing.

And vanished again.

"I've known Alice for almost my entire life." Perfect paused, waiting for his brother's eyes. "I don't need much prompting from her. For a lot of reasons, I behave."

"If you were at the Core," Ord remarked, "you could have been helping."

"Help build that universe? Hardly." A hard chuckle. "The Core is a big place, and I wasn't with her. I was living in seclusion between Alice and your front door."

"But you knew what she was doing—?"

"And fought with her when she came to visit." A black expression, sour and wild-eyed. "Oh, I fought. I augmented myself with every persuasive skill, and when they failed, I threatened her. As if that could do any good."

Each step took them closer to the high glacial wall. Between them and the ice was a low moraine, moss and lichen growing wherever there was shelter. As they climbed the loose slope, their feet destroyed oases and created new ones. With a quiet voice—a hunter's voice—Perfect asked:

"Do you wonder what they did with Alice's powers?"

They had been stripped away. Of course.

"But what does that mean?" Perfect posed the question, then gave an answer. "Powers have physical sources. Augmented minds need neural nets. Moving a world requires godly power. And there are the machines that crack molecules and weave dark matter and build bodies and tear them down again, in an instant." The healthy hand took Ord by the arm, then squeezed. "I'm talking about Alice's body and mind. Her bolts and microchines. And her antimatter-digesting guts, too."

"I've wondered about them," the boy confessed.

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"A grand secret, they are. And a wrenching problem for the poor officials who need to decipher them, then destroy them."

They reached the moraine's crest as the sun set behind them. A day done; a comforting sense of closure. Perfect dropped his knapsack and sat on it, eating his endless dried meat, gladly sharing it with the boy when he asked for another taste.

Without daylight, the world shrank, darkness giving the tundra a close, constricting feel. But the ice seemed to grow, becoming glassy, some subtle inner light betraying networks of fine cracks and deep fissures. Tiny, tiny humans stood at its base. Each held a spear, but Ord realized that spears meant weapons of a different kind; and in a whisper, Perfect said:

"That creature you met? Our Alice? As powerful as a sun, if the need arose. But when she arrived from the Core, at lightspeed, she had no mass. She was a set of instructions that then had to conjure up her physical self. She used raw materials kept in and around the solar system, kept for just such contingencies." A pause as he bit off another predatory hunk. "Most of Alice—the bulk of her memories, her skills—came later, and not quite at lightspeed. That's how we true giants travel. Think of it like a strange snowfall coming from the Core, snowflakes the size of houses and mountains, each one meaning some potent talent, and all of them here. Here, Ord. Collected and held. Waiting for someone to get the courage to crack them open and see what there is to see."

Bright hard stars appeared above them, then below, flares of soft blue plasma slipping through the glacier's deep fractures. This was Alice's dangerous meat, and it was larger than some worlds—

"A morgue, in essence." The Chamberlain voice was close, softer than any whisper. "Keep still. Keep very still now."

The moraine had vanished. Ord was in freefall.

"Do you feel sleepy, maybe?"

The boy felt extraordinarily tired.

"Good. Try closing your eyes."

But before he could, Ord said, "Closure," with a numbed mouth.

"What was that?"

"That's this," he muttered. "That's why she came home. She knew what would happen, and she deserved it."

Perfect touched him with a thousand hands, and laughed. "Do you know what I like best about humans? How we take whatever happens and dress it up in any suit of clothes we want, for any occasion." The hands were hotter than suns, soothing to the touch. And intensely busy. "Maybe you're right. Maybe closure explains this whole fucking mess."

A distant black laugh, then:

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"A poetic denouement, and she couldn't help herself."
Then:
"A moth, and with the Core she conjured up the perfect flame."

7

The boy's disappearance went unnoticed for several critical hours. Had Alice escaped, and was it Alice inside her prison cell? Those seemed to be the major questions of the moment. Sensors were placed in a diagnostic mode, perhaps explaining why no new anomalous event was observed. Then the Chamberlains learned that the boy was gone, his subterfuge too advanced to be his own work. A general alarm was sounded. Gravimetric evidence pointed to a new mass orbiting Pluto. Warnings were sent to the appropriate Nuyens, and nothing was found. But afterward, several Families reported thefts from their Neptune reserves. . . .

Despite prompt action, the Oort cloud facility was infiltrated. . . properties were stolen. . . .

Analysis proceeding with all available tools. . . .

The boy is being sought. . . .

—Nuyen memo, confidential

It was like waking from death again.

A voice. Chamberlain, and male. From the living world, he said, "The Brongg homeworld. Picture it. Walk it with me. A long gentle beach of water-ice sands, a sea of liquid methane on our left, and on our right—"

"The Iron Spine." Ord knew the beach. A thousand eyes seemed to open for him, only two of them mired in his own face. It was another illusion, but of superior quality. He was upright, wearing a new body. Slowly, very slowly, he turned his head until the Iron Spine filled his gaze. Before the first vertebrate evolved on earth, the Brongg had lowered a nickel-iron asteroid onto their world, setting it on a bed of vacuum bubbles. Half a billion years of mining had left it partially hollow, but the remnants were spectacular, floating on the water-ice crust, their flanks covered with blue-black vegetation that was adapted to the bitter taste of heavy metals.

The weak Brongg sun was rising above the highest peak. A Brongg day lasted for a full Terran month, Ord recalled, and with that fact came a multitude of ancillary facts and details, making him the helpless expert. "Today," Perfect announced, "we will walk a beach."

The beach was gray with black organic streaks, and it was as smooth as pavement, curving out toward a rocky point where a polished black

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cylinder stood on end, casting a long shadow across the calm and colorless sea. The distances looked trivial, yet with his first painful step, he realized this would be difficult at best. The Brongg nervous systems were built from superconducting materials, thoughts flowing without resistance, without turbulence; but their physical metabolisms were sluggish, each physical act considered and reconsidered thousands of times before it was attempted, or not.

"Perhaps," said Perfect, "that's why they've lasted so long. Unlike people, they have to think before they step. . . ."

Turning his head was a struggle—a sobering investment—and it took most of a stride. Perfect was a Brongg in body, like Ord. A nude fishy exterior wore thick legs and broad round feet, and his webbed hands held a delicate ice lance. But the face was comically Chamberlain, blue eyes winking, the human mouth grinning at the world.

"In all," asked Perfect, "how many genuine living intelligences have I found first? Count them for me, please."

The voice was a radio pulse born from the swift nervous system. In an instant, Ord saw each of his brother's discoveries, oldest to newest. One hundred and three species on almost as many worlds. No human could claim half as many finds. True, most were technology-incompetent. But almost two dozen, the Brongg included, had been deemed worthy of diplomats and trade, cultural exchanges and scientific ones, too.

"Now," said Perfect, "count the failed worlds."

Again, Ord knew the exact number. Memories encoded in a tireless net flowed into him. He saw Perfect tracking whispers through a wilderness of stars. Some whispers vanished, some grew stronger, but all ended at some technological world or worlds, all freshly killed. Wars had done it, mostly. Sometimes plagues. Experiments and machines had gone amuck, or a battered ecosystem had collapsed back to the microbes. Nothing with which to speak, save the occasional computer or some automated station that still watched the sky and shouted, begging the stars for help, for alliances, for second chances, for God.

Counting was easy; remembering took an age.

Images like fists struck Ord, leaving him spent and sore, and sorry.

And Perfect had suffered even more. Hopes ruined each time; nothing but wreckage left. Armed with a Chamberlain's skills, he would sift through the gruesome traces—bones and burnt cities and records—then he would build phantoms of the dead, complete with voices and desires, and the telling flaws. These examples gave insights. Perfect could ask the phantoms why and how they had so willingly pushed their homes and selves into oblivion. Forty-eight worlds, Ord counted, plus hundreds more where life began, evolved to some sophisticated, promising level,

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only to be shattered by a comet's splash or the detonation of a nearby sun. And as he stared at that carnage, Ord asked the obvious:

"How does any intelligence survive?"

"Exactly. Exactly!" A familiar laugh, if somewhat bleak, then Perfect took another agonizing step, ice-sands dimpling beneath the bare right foot. "The Brongg are the elders, but they had it easy. Their solar system has few fissionable materials, and they're pathologically introspective. Even when they could have augmented themselves, boosting their physical selves, they didn't. Wouldn't. Out of fear more than wisdom, I think. Too many uncertainties regardless of how long they rolled the sisyphean problem back and forth in their heads."

The Brongg were cold, slow, and scarce. The truth told, Ord had never admired them, and he wasn't about to start now.

"And at the other end of the spectrum, or near it, are humans. Churning hot whirlwinds, passionate to a fault, aggressive to no good ends, and alive now only because we scared ourselves into wisdom. Terrible wars led to the Families and the Great Peace, and our little truce has lasted quite a while, I think. As long as everyone was happy, who cared who rowed the damned boat?"

A great long laugh. Electric, chilling.

"Millions of years," said Perfect, "and I've studied the dead and the living. Now doesn't it make sense that I'd find patterns? Relationships? Little tendencies, and the big fat ones?"

Ord had to agree.

"Tendencies," Perfect repeated. "And out of them, conclusions. How *I* would invent life from nothingness, given my chance? The best of the Brongg, the bedrock of ourselves. All put into a stew with every other successful species, in some realm pure and innocent—"

"And perfect," Ord said, anticipating the words.

"And now, brother, you know why Alice renamed me. I have the wicked flaw of needing to chase perfection."

Trying to guess the next stage, Ord mentioned the odd, illegal worlds that Alice had built. Not terraformed, but alien. Novel proteins and toxic solvents, all built to mimic natural worlds.

"Ordinary, ordinary worlds," was Perfect's assessment.

"How can you say it? She broke every law to make them, and she hid them away in dust clouds and globular clusters—"

"And I am telling you that these worlds are fundamentally traditional. I agree, yes, Alice went into the kitchen and made strange muffins, but the muffins have the ingredients you'd expect in a kitchen. Which made me ask: 'Where is your genius, Alice? Why that silly pride?' "

"You said that to Alice?"

"For the last few thousand centuries, yes. And she would say that if I

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was so clever, I should do better. 'With your help,' I would promise. Not being a superior terraformer, I needed hands trained for the big dull ugly labor of it. And eventually she agreed to help, just this once, surprising both of us, I believe."

Ord felt a sudden chill, a premonition.

"Where are we going?" he asked. "Tell me, please."

Perfect showed him an enormous smile, then gestured with vegetable slowness, his ice lance held in his left hand, two of the Brongg's minor fingers missing. "Down the beach," he replied, not quite laughing. "We're walking beside the sea, and it looks as if we're halfway there . . . can't you see. . . ?"

Halfway, and the weak little sun was directly overhead, black-red clouds of hydrocarbons forming in the upper atmosphere, a chill shadow falling over them and the flat, rather greasy sea. Two weeks of walking, yet it seemed longer. A few words spoken, but Ord had absorbed volumes of information, the pace relentless, its quality and the demands beyond his experience, his expectations. And it never stopped, Perfect's memories pouring into him even as his brother remarked, "I wish there was more time, Ord. I do."

Why wasn't there?

"Because we're being pursued. Hounds on our heels, if you will."

Ord looked over a shoulder, the alien neck as pliable as an owl's. The beach was empty save for a willowy creature walking in the shallow methane, jabbing with claws, in slow motion, and managing to impale an eel-like creature even more sluggish than itself.

"How fast are we moving?"

"In space," Perfect replied, "just a whisper under lightspeed."

"Why not lightspeed?"

"Because. This is fast enough. Our destination isn't equipped to receive us as a rain of massless particles. And since you deserve to know, it's because we have some possessions that need to be carried as they are, and I'm not allowed to say more, and I wish it were otherwise, Brother. I genuinely do."

A powerful dread was working on Ord. He gasped with his mouth and unseen gills, then forced himself to ask the next question. "How many pursuers?"

"Two. But presumably others are in their wake."

"How close are they?"

"On this scale, on our little beach . . . if I showed them to you they would be wearing our skins. . . !"

Ord turned, looking forward again. Concentrating on the slick black cylinder, he said, "You're doing this for Alice. Is that correct?"

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"Some of it is her idea, yes."

"Why is Alice so important to you?"

Perfect asked, "Is she?"

What other ancient brother would conspire with her, without apparent hesitation? "You've got thousands of sisters. Why do you take such huge risks for *Alice?*"

"Don't you know?" A soft, unreadable laugh. "Haven't you guessed?"

Ord grappled with the possibilities. Besides their common age, no answer seemed reasonable. They were Chamberlains, but with different interests and philosophies. And even age couldn't be the whole answer, since there were dozens of siblings with their enormous rank.

"Try something unreasonable," was Perfect's advice.

Ord imagined several improbabilities, none adequate.

"So try the unthinkable. Alice and I are close, yes. Yes. But what answer is the last one you would hope to find?"

In a whisper, Ord said, "No."

"Yet you're right, Ord. Congratulations."

Suddenly the boy saw the Chamberlain mansion—the smaller, original incarnation—and the original penthouse on its topmost floor. It was autumn, again. Alice stood at the penthouse window, again. But the mountains were younger, the leaves more subdued, and the penthouse was intact and rather primitive, in furnishings and its luxuries.

This Alice didn't wear a little girl's body. The brilliant sun pierced her dress, betraying a body fully matured, relentlessly feminine . . . the scene having some quality that caused Ord to squirm and look away for a few uneasy moments.

He was standing in the penthouse, unnoticed.

Alice was on her toes, her feet bare, breasts pressed against glass, the bright eyes staring down at the world while someone emerged from the door at the room's center. A tall male Chamberlain of no particular age, he wore a stiff uniform that had once meant rank in the post-war government—a creature of status and some influence, yet not much older than Ord—and dangling from his dress shirt was a length of optical cable, its buried end linked with his nervous system, these technologies only slightly above fire and folsom points.

Here was Thomas as a young man, Ord knew.

Ten million years in the past, and the Peace was newborn, and the Families had just begun their long ascent.

His brother wore no boots or socks, perhaps for the sake of stealth. Walking on long bare feet that were the same pink as Alice's feet, he stalked their sister, without sound or hesitations. But she knew he was there. Probably with his first steps, she knew. Through her body she conveyed a sense of controlled eagerness, calves flexed and fingers spread

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and the tilt of her head flirtatious, sunlight making her neck and nearer ear glow with an inner light.

Yet Alice couldn't remain passive to the last moment. It was against her nature. This was the end of a long and relentless seduction. Thomas found the courage or lust to lift his hands—five fingers on each—and his sister decided to take full charge, stealing his momentum, flipping back her autumn hair while a calculated voice told him:

"See? You're not perfect after all."

Thomas hesitated, just for an instant, then seemingly willed his hands to close on her shoulders; and she said:

"Don't."

Then:

"I will tell on you."

Then, with emphasis:

"Ian. I'll tell him *everything."*

In those days, Families looked elsewhere when siblings played these games. It was assumed they would outgrow incest in the same way they were outgrowing selfishness and cruelty. But Chamberlains were even better than the others. Ian, their ultimate parent, had said so. He would take his male clones aside, telling them, "Your sisters are taboo! Untouchable! I'd rather see you screwing the livestock than them!" And with those hard words, he planted some compelling images in each youngster—a miscalculation that the patriarch would make for dozens of generations, without fail.

But Thomas—the eventual Brother Perfect—seemed to believe his sister's words, pulling back his hands as if burned, a careless and quick little voice saying, "Don't tell . . . anyone . . . no. . . !"

Alice could see his reflection in the window glass. Without turning her head, she took the hands with her smaller ones, pulling Thomas's arms tight around her shoulders and chest—

—and the uniformed brother, that man of consequence, whimpered, "Please don't tell!"

"But I will," she promised. "Eventually." Then with one hand holding his arms in place, she took her dress with her free hand, by the hem, and lifted it from behind as she made a second promise, a low roughened voice telling him, "You're my favorite brother, you always will be. . . ."

The penthouse dissolved into methane. With the perpetual smile and a gently embarrassed laugh, Perfect said, "I know. I paint our sister as conniving and treacherous. A little evil, even. But those aren't her only qualities, and they aren't even her largest. She's done wondrous things for every good reason, and we can only hope that's true of us, too." The incomplete hand touched him again, in a gesture that took hours. And

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meanwhile, Perfect told story upon story, proving their sister's innate decency, and in turn, perhaps unintentionally, proving too his own undiminished romantic affections.

With the pressure of the central thumb, Ord bristled. "*We* don't do that kind of thing anymore."

"You mature differently," Perfect agreed. "More slowly. With more help given."

"I've never thought of my sisters . . . in that way. . . !"

"But I think you appreciate my circumstances," the ancient man replied. "A profound emotional attachment made in my bedrock years, and I've built on that rock. Too much, I know, but what can I do now?"

Ord struggled to make his legs move faster, accomplishing nothing.

"You should know. Several times, in various cultures, Alice and I have been married. Husband and wife." A long uncomfortable pause, then he reminded Ord, "Enough time passes, and the unlikely has its way of becoming ordinary. The unthinkable, tiresome."

The boy said nothing, lightning thoughts racing through him.

Perfect respected the silence, holding their pace but never speaking. Never intruding. The sun was dropping, clouds thickening until the air was saturated, a steady slow rain of energy-rich goo beginning, drops bursting on the sea and fish rising to feed, the business achingly slow, yet in its own way, frantic, repeating patterns even older than the Brongg.

There was a moment when Ord felt a sudden pressure, an inexplicable change of directions. But the beach and world looked the same.

Why would Alice need his help? Closure or no closure, how could *he* accomplish anything worthwhile?

Homesick to tears, Ords closed his eyes and walked blind.

His brother kept his steps true.

And when he couldn't contemplate his situation for another moment, Ord opened his eyes again, discovering that it was early evening and they were just a few steps away from their goal. Almost too late, he asked about the ancient times. About Ian, about his first children. And how the ordinary people had dealt with them, or not.

"Tell me," Ord begged.

Stories flowed from Perfect, genuine and simple, told with words and direct memories, accents made with the occasional slow flourish as the brothers marched across the last few meters of rain-spattered beach.

8

Sometimes Alice joined me on my explorations.

She was more a burden than a help. I was chasing living worlds,

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and she preferred the dead. We moved too fast for her to accomplish much, but she'd give the dead places little nudges. She warmed their cores or lent their atmosphere a potent gas or two. Another hundred million years, and who knows? Something might grow on them. . . .

But I wonder:

Are people going to declare those worlds illegal, too?

Will janitors be dispatched, ordered to scrub away all that treacherous prebiotic slime?

—Perfect, in conversation

The Brongg sun was barely visible as it set, shrouded in clouds and mammoth drops of new gasolines. The tall black cylinder was in front of Ord, in easy reach, but when he lifted his arm it proved to be unreachable, a dreamy, teasing sense of distance only growing.

"Step again," Perfect advised.

When he stepped, at the moment of footfall, the Brongg homeworld evaporated. He was in freefall again, and the cylinder covered half of the sky—a deep blackness against a bottomless void. Ord kicked, cried out. Screamed and made no sound.

He was streaking toward their destination at a fat fraction of lightspeed, yet the final plunge took hours. A piece of him—some new subsystem; a canned memory—measured the target's size, in astonishment, and he pleaded with Perfect for an explanation, or encouragement, or even a few mild lies to mollify him.

Perfect said nothing, and was nowhere to be seen.

The impact was sudden—a brief biting pain, brilliant light of no color, then a hard and busy long sleep.

When Ord awoke he found himself on another beach. He was dressed in his original clothes, including his favorite boots, and his body was his own, unscarred and excited, his heart beating inside its enduring cage of ribs.

"Oh, you're whole again. Thoroughly and genuinely."

The caveman sat beside him, his knapsack serving as a pillow. Again he wore skins and an oversized smile, but the blue eyes seemed distracted, even sad. Calloused feet splashed in a deep rocky pool. A sourceless warm light made his brother's skin glow, pink with blood and pink with wear. A soft proud voice asked, "What do you think?"

The pool and the sea beyond were filled with a watery fluid.

But it wasn't water, Ord realized.

The surface wore a thin persistent foam, transparent facets distorting the pool's bottom, water-worn stones overlaid with a matted emerald-brown hair. Life, he knew. And as life went, it was simple. Unsplendid. Even a little disappointing.

"Yet there was nothing like this on my last visit," the brother replied.

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"A few protocells, all scavengers. Not one honest photosynthesizer among them."

Ord touched the foam-frosted pool, feeling warmth and a strange lack of wetness.

He rose to his feet, glad to be quick again.

In his body again. Whole and home.

"Look around," Perfect insisted. "Opinions, please."

A rocky beach had been shaped by waves and strong winds. Behind the beach, taller rocks merged into hills, then mountains, then masses too huge and distant to be mere mountains. But at least as astonishing was the sea, every little agitation, every insult, causing the foam to rise, flat and bright jewel-like bubbles refracting light into every possible color. It was as if the boundaries between liquid and air were vague. Ord's eyes lifted, a general brilliance replacing any sun, the distant sea turning milk-white as each jewel's color blended into one.

"This is a dyson," Ord muttered, interrupting his own thoughts.

"Cylindrical, and spinning. The most ordinary part of the design, to my mind."

Reaching into the air, on his right and left, were hair-thin structures resembling the angle spokes on a crude wheel. Ord imagined they must give support; and in an instant, some subconscious calculation was delivered to him. He remembered the dyson's apparent size, which implied a certain length for the spokes, and a diameter, and their thinness was an illusion, much as a giant star will mimic a simple cold point.

"Nobody builds . . . on this scale. . . !"

"You were taught," growled his brother. "You were taught."

The hair-like spokes were thicker than some worlds. And with that revelation, Ord looked inland again, past the ordinary mountains, eyes lifting as the mind told him that the vast plateau was not, that what he saw was the base of the nearest spoke, the rest of it partially obscured by the glare of the sky.

"This little ocean?" Perfect boasted. "It covers an area greater than a hundred thousand earths, and it's a teardrop. Nothing more."

Numbed, Ord felt his legs tremble, his breath quicken.

"Taste the water," his brother insisted. "Here. Have a sip!"

Not water, and not wet. It was like a drink taken in a dream, the flavor too delicious to recall after the thirst was gone. With a weak, quiet voice, Ord asked, "What is it? Tell me?"

"You guess. Go on."

"You've done something with dark matter." A boy's best guess, correct but too simple by a long ways. "Because this isn't ordinary . . . it isn't baryonic. . . ."

"Alice did the magic, mostly. I set guidelines and the fat goals, but she

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invented the technologies." He pulled a stone from the pool, complete with its shaggy carpet, then tucked it into a new pouch hanging from the knapsack. "What she did was rework some simple, invisible particles. She coerced them into acting like atoms. A positive particle, a negative one. Then she built a new periodic table—a simpler set of elements—out of the lazy atoms. Much of what you see here is dark matter, which is why it barely reacts to the universe around us. And that's why unless you know precisely what you're seeking, this vast dyson is wondrously invisible."

Questions formed.

Ord tried asking all of them, in a rush.

"Oh, people have attempted dark-matter life," Perfect explained. "From scratch, all failures. You can guess some of the problems. But we helped ourselves by inventing our own elements, including a superior version of the honored carbon atom. And the scale of the work helps, some. And too, we cheated. When we had no choices, we bolstered the system with baryonic matter. A thin but essential scaffolding, if you will."

The boy took a deep breath, wondering what he was inhaling.

"It feels like a warm day, doesn't it?" A laugh and shake of the head. "The truth? We're hovering a few degrees above Absolute. The fire above us is chilly. Interstellar hydrogen is captured as it drifts into the dyson, then it's burned efficiently, taken all the way to iron. Any energy that escapes is masked, given some natural excuse. And the iron ash is *nothing* in this volume of cold space."

Ord swallowed, then swallowed again. "You wanted to make a better intelligence. But what's here, in this pool . . . it can't have even a stupid thought."

"I would never, never presume to dictate a final design of what evolves here." A pause, nothing funny for this brief moment. "I set up the broad parameters. Not Alice. I gave life its chance, then broke camp and began walking again."

Ord watched his brother wade into the sea, submerging for a moment, then emerging with another stone and its hair, both different in color from before. Again he stuffed his prize into the pouch, no room for it and yet no difficulty in the task. Then as he straightened, appearing rather pleased, Ord asked him: "How can you know that intelligence will evolve? And that it won't make all *our* ridiculous mistakes?"

Perfect retrieved his treasured spear, using it to roll a stone on its back. The mud beneath stank with odd rot, implying life. A gob of the mud followed the two mossy stones into the pouch, then he said, "There's nothing like uranium here. For example."

Recalling his own foolish stunt, Ord felt a sudden painful shame.

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"And with these synthetic elements, and with the neurons they can build, thought and action will be in balance, I hope. I *hope.*" The older brother appeared uncharacteristically sober, yet sobriety, in some odd way, betrayed a deep and abiding happiness. He was happy stuffing mud into that impossible pouch. He was happy standing again, wiping his dirty hands against his stomach, squinting at the sky as he asked again, "What was our golden age?"

"After the glaciers melted," Ord recalled. *When the world was the universe, the stars unimaginable. . . .*

"This is the universe." A skyward thrust of the spear. "What's born here has no reason or rationale to imagine the stars."

Ord stared at his brother, waiting.

"Whatever prospers—whatever organism can rule this dyson—is free to call itself the master of creation. And why not? It won't sound even a millionth as silly as we do when we make the same boasts."

"But *I* never have," Ord complained, in a whisper building toward anger. "I've never even thought those words. . . !"

"Which is possibly, just possibly, why Alice selected you!"

Ord shut his mouth, remaining silent.

"Do you know what I am? What I am most truly?" He asked the question with a calm, almost distracted air, again wiping the stinking mud from his hands, palms and fingers painting his belly. "A master of creation, maybe?" From everywhere came a thunderous, world-shaking laugh, and Perfect said, "Bullshit! I'm just a fucking caveman who got *lucky*. . . !"

9

Maybe our universe is as simple as this:

We are built entirely from someone's nearly invisible dark matter. Protons and electrons have been coerced into cooperating, building the baryonic places. We're a tiny bubble drifting through an enormous and brilliant but quite invisible cosmos, lovely pieces of it passing through us unseen. Which implies that this larger universe might itself be dark matter inside some still greater universe . . . and so on, and on. . . .

Oh, Ord, I'm sorry. I was mistaken. That doesn't sound simple at all, does it?

—Perfect, in conversation

Hoisting his knapsack to his shoulder, Perfect said, "Stay here."

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"Where are you going?" the boy blurted, surprised by his anxieties. Trying for composure, he added, "I want to go with you."

A wink and grin, effortlessly charming.

Then Perfect picked up his spear with his partial hand, remarking, "I've got work, and there isn't time. Stay. Wait. I should be back before too long, I hope."

"But I'm here to help, right? To do some good—?"

"You don't understand. Not yet." Then his brother began to step toward him, and he wasn't there anymore. The step carried him out of sight, in an instant, and Ord spun and dropped to his butt, suddenly feeling chilled. A hundred new questions to ask, the old ones needing to be asked again, and he felt abandoned, cheated, and small.

In a whisper, he said, "I'm tired of this family."

A lazy little wind blew from the sea, cold as liquid helium but warm against his current skin. Other than the wind, nothing moved. No answers presented themselves. And when Ord grew sick of feeling sorry for himself, he stood again, then began to walk, following the shoreline at his own modest, archaic pace.

There was no sun to set, but there were nights.

He learned.

Darkness emerged slowly, exposing the illuminated far side of the dyson, and Ord sat on a different beach, bare feet in the warm facsimile of sand, eyes gazing at that remote, ill-defined terrain. Every world that the Chamberlains had terraformed, if cleaned like animal skins and sewn together, wouldn't carpet this vast place.

He wondered how Alice and Perfect had managed it, and then he knew. It was because the dark matter was so abundant and amiable. Because they took their time, self-replicating robots doing the brunt of the work. And because the dyson's true mass wasn't much greater than Neptune's—a wondrous home of tissue paper, in essence, lit from within by cold candles.

Somewhere within Ord, out of easy reach, were reservoirs of fact, languid explanations and bottled lectures beyond number.

He practiced, accessing the knowledge as best he could.

There was a text on the Brongg—their immeasurable history, the bulk of it immeasurably dull—but its sheer size and dullness was an event, majestic in its own right, like plate tectonics.

Sitting on that alien beach, in the dark, Ord found himself lost in the intricacies of a Brongg government born in the Triassic and still thriving today.

He barely noticed the dawn.

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A feeble glow began nowhere, and everywhere. This was a universe without shadows. The boy blinked and looked skyward, wondering how these qualities would affect the future psyches . . . and there was a sound, a gentle wrong-pitched splashing, his eyes dropping, focusing on a distinctive beachcomber.

It was Perfect, already back again.

Ord was halfway standing when he noticed the clothes, the posture. The five whole fingers on each open hand.

Hesitating, Ord found that he had no voice.

With a quiet, terrified tone, the other Chamberlain said:

"Lyman. I'm just Lyman."

"Brother. . . ?"

"You remember me, don't you?" His horror was palpable. "They asked me to come, to talk with you, to tell you . . . offer you . . . oh, Ord. . . ! Do you know how much trouble you're in. . . ?"

"Why wouldn't I remember you?"

Lyman straightened, blinked. The answer seemed obvious, thus he moved to greater questions, explaining events from his point of view.

"You vanished. We thought you were in your room . . . I even spoke to you once, except it wasn't you . . . you were gone, and a security sweep realized it." Lyman attempted a smile, acting as if he remembered instructions to do just that. "We searched for you." The smile brightened. "I went to the stables. . . . I thought you might be hiding. . . ."

"I'm sorry to worry anyone."

The brother took a deep breath, then exhaled.

"When you couldn't find me, what happened?"

"Next?" A pained, prolonged swallow. "The Nuyens came to visit. A high-ranking delegation. They claimed that some old Chamberlain had been living on the estate, in secret—"

"How could they know?"

"The Nuyens have watched us. Better than we watch ourselves, it seems." Lyman glanced at the enormous sea, nothing registering in his eyes. "There were high-level meetings, and accusations—you could feel the tension—then someone broke into a facility in the Oort cloud, and portions of Alice were stolen. Afterward, you could *taste* the panic—"

"What portions?"

Lyman shuddered, then wrestled himself back into a half-composure. He didn't know what was stolen. "They wanted help from someone you would trust," he admitted. "Which isn't me, I *told* them that, but you know how the elders can be. They'd already picked me before they asked—"

"Who asked?"

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"Everyone. There were Chamberlains, and Nuyens. Even the Sanchexes, by then. And even the Sanchexes were scared."

"How would you help?"

"Like this." Isn't it obvious? his face asked. "You and a rogue Chamberlain had taken parts of Alice. It was kept secret from the public, of course. So was the mission to find you, and they asked if I would go with them, and speak with you when it was time."

Ord found himself laughing. A genuine, quiet laugh. "Oh, they asked you, did they?"

Lyman hesitated, attempting a wry smile. "I went to sleep." He said the word with longing, as if he wished he was asleep now. "It was a long chase, but here I am."

"You are," Ord agreed. He had sudden warm feelings for Lyman, sorry to have him pulled into this mess. Was that the logic? Disarm him with a pitiful sibling? "But I didn't steal anything of Alice's."

"I knew you didn't. It was the rogue all along."

Where was Perfect?

"What we could do," Lyman continued, "is go to the others. You aren't responsible for what's happened. You were kidnapped, or whatever we want to call it, and I'll explain—"

"Who's with you?"

"A sister. The elder on the estate." He attempted another smile. "Do you see how important you are?"

"Who else?"

"Just one. A Nuyen." Lyman paused, a study in concentration. "He is in charge. As old as Alice, almost."

Perfect had seen two pursuers. Lyman would have been cargo. Inert, innocent.

"What do you think of this place?" asked Ord.

Lyman wanted to keep his eyes on his brother. A glance toward the sea, then toward the mountains. Then he said, "Lovely," with a surprising conviction.

"But you came to destroy it, didn't you?"

"Not me," his brother sputtered. "But if it's illegal . . . *immoral* . . . doesn't it *have* to be destroyed?"

A vast realm that hurts no one—a universe unto itself—and Ord felt a scalding, enormous rage.

He gave a low moan, stepping toward Lyman.

A terrified voice said, "No," as his brother retreated. He was begging, pleading. Hands raised, he said, "Just come with me. We'll talk to them, and maybe something can be done—"

Ord picked up a rounded stone, for emphasis. "They won't hurt this place—"

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—and a Nuyen appeared, a Chamberlain standing strategically on his left, slightly behind him. An adult version of Xo showed a humorless smile—simple dark hair; unreadable black eyes—then he said with a hard clean cutting voice, "Surrender. You're a good boy, but you don't have any idea what you're doing."

Ord felt utterly confident in his mistrust of Nuyens. "Do not touch anything here," he warned, words like thunderbolts.

A tilt of the head, a thin amusement. The Nuyen said, "Really?"

The sister—a total stranger—called to Ord, by name, conjuring a face vast and maternal, concern dripping from it.

Ord looked only at the Nuyen, lifting the stone overhead as he said, "Leave. All of you, leave."

The enemy showed no fear or hesitations. But behind the face, in some small way, there was the instantaneous flinch.

An involuntary failure of will.

With a mixture of horror and exhilaration, Ord wondered what he had of Alice's. Energies, liquid and sweet, surged through him and radiating in all directions. The beach shivered. The great sea threw clouds of jeweled foam into a brilliant sky. And Ord pictured the Nuyen dying, slowly, his soul in agony to the end.

Here the boy would remain. Anyone who came to destroy this place would be destroyed, Ord's destiny set. . . !

A voice spoke to him. Familiar, close.

A lying voice, Ord told himself.

The old Nuyen and Chamberlain had retreated in panic, leaving their empty bodies standing on the beach. But their souls hadn't fled far enough, and Ord could see them with some newly engaged eye, measuring distances, the rock in his clenched hand no longer simple and cold.

That voice, again.

Beseeching him to stop.

But Ord didn't listen. He followed his instincts and anger, flinging the nonstone and aiming to murder—

A flash, a dull white pain.

—and he collapsed, giving a miserable low groan.

Piercing his chest, cutting places and functions he had only just begun to feel, was that long flint folsom point. Ord could see the point jutting from his sternum. He was down on his hands and knees, breathing out of habit, little red bubbles detaching from his mouth and drifting on the warm wind. He watched one bubble, something about it enchanting. Weightless, it swirled and rose, then fell again. In its slick red face he thought he could see his own face, for an instant. Then it settled on top of a bare pink foot, and it burst without sound, without fuss. Whose foot? Why couldn't he remember? But Ord was having trouble thinking at all,

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and he felt quite chilled, and the bubbles weren't coming anymore, and he very much missed them. . . .

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. . . and with my life, my health, and my perishable name, I now and always shall defend the Great Peace.

—from the Families' pledge

"If I had let you kill them," said Perfect, "what possible sweet good would have come from it?"

Opening his eyes, Ord found himself sitting on a cave floor, a small fire burning before him, his brother illuminated by the golden flames and half-hidden by their swirling, jasmine-scented smoke.

"A rash thought, a crude act, and then *what?*"

The boy gasped, feeling pain. In the center of his chest was a slick raised scar, white as milk, and aching, and apparently permanent.

Quietly, with genuine remorse, he said, "I am sorry. . . ."

Perfect said nothing for a long time, wiggling his fingers and stumps as they warmed, his face contemplative and remote.

The cave was filled with rocks, Ord noted. They were neatly stacked, each one adorned with something alive. Handfuls of mud filled the gaps. Everything glistened, water dripping somewhere in the darkness.

Ord shuddered, saying, "I wanted to protect—"

"—the dyson, yes." His brother shook his head, warning him, "First of all, the dyson is *my* responsibility. And second of all, there were exactly five sentient organisms onboard it. Only five. You and me, and poor Lyman, and your intended victims. You were willing to commit two murders to save a vast inchoate slime, and that's not the moral act of a decent soul. Chamberlain or not."

"How is Lyman?"

"Sleeping on that beach, and safe."

Ord glanced at his surroundings, saying, "This is your pouch. This is where you've been putting the rocks and mud."

"A representative population, yes. Held in suspended animation." Perfect tossed a stone chip into the fire, sparks scattering. "That Nuyen and our sister are holding at a safe distance, awaiting reinforcements. Of course they suspected that I was the one helping you, but they never, never guessed the kinds of powers that you hold. A lot of Alice's systems had yet to be catalogued. And besides, they hoped to win your surrender, without incident, before dealing with me and my dyson."

"What kinds of powers. . . ?"

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A dark, slow laugh. "I do not know, Ord. In most cases."

The boy dipped his head, breathing deeply.

"Before Alice fled the Core, she visited me, warning me about the coming explosion. Then she made me promise to do exactly what I have done, giving the Baby exactly what I gave you, and taking him to a suitable starting point."

His unborn sister could have been chosen just as easily.

Or Lyman, he realized.

Then Perfect jumped to his feet, announcing, "Before the reinforcements arrive, we should make our quiet escape."

"To where?" the boy inquired.

"I am leaving on a million year walk." The voice was calm, the face resigned. "Out between the galaxies, I should think. Then in some good cold place I'll rebuild this dyson. Stone for stone. And afterwards . . . well, there might be a galaxy or two worth exploring. Who knows?"

"May I walk with you?"

"Not for one step, no."

Ord had expected that answer, but the words stung nonetheless.

His brother continued, saying, "Alice asked for my help, and I gave it. Out of love, trust, and habit, and in that order. She has her reason, we can hope. And now you're free to help Alice, or not. I won't presume to tell you which choice to make."

"I have to save something," Ord whispered.

Perfect kicked stones and cold embers over the fire's heart. "I know what it is, and the truth told, I don't envy you."

"It's fragile, and Alice is pledged to protect it. . . ."

The maimed hand was offered.

Ord took it, standing. "It must be an illegal world. Is it? One with sentience, maybe?"

"I will show you," his brother promised. "Come on."

The boy's feet refused to move.

Without firelight, a softer, stranger glow illuminated the cavern. Perfect was a silhouette. His voice was close and warm, coaxing Ord by saying, "Not a world, no. Follow me."

Ord was strong enough to butcher a godly Nuyen, yet his legs were too heavy to lift. He fought with them, shuffling forward, noticing for the first time that his feet were bare and his only clothes were trousers made from simple skins. He looked at himself in the gloom, thinking of a lucky caveman. Then he managed a step, and another, and looked up at the sky that he both anticipated and could not believe.

Standing beside him, Perfect said, "I took you on a course perpendicular to the galactic plane. Out and out, then around a black hole that sent us partway home again."

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Ord was sobbing, tears flowing, tasting like a long-ago sea.

"We walked along that beach, yes. But we also crossed several tens of thousands of light years. Out, then back again. Which means that you can see some of what's happened since we left."

The Milky Way covered the sky. With new eyes, Ord could see every sun and world and lump of stone bigger than a fist—or so it seemed—and the Core was the brilliant horror that he expected, its detonation at its climax, radiations and expelled wreckage rushing outward in a withering, toxic storm. A baby quasar, only human-made. Worse than almost every reasonable projection made in Ord's long-ago youth—

—and by no means the worst of what he could see.

A tragedy, but one with calculable, endurable ends.

The greatest horrors were smaller, scattered through the galaxy's broad spiral arms. Ord couldn't stop seeing them, even when he shut his human eyes. Healthy suns exploded. Living worlds were reduced to dust. Unknown powers struggled against one another with a frantic, brutal violence. The Great Peace was collapsing. Old and fragile, it might evaporate totally before Ord could return home. And to accomplish what. . . ? With or without Alice's powers, *what good could he do*. . . ?

With a solemn voice, Perfect said, "Bless the dead!"

At Ord's feet was a knapsack filled with talents. In his left hand, a fine new spear tipped with a folsom point. And in his right hand was a simple stone mug, the pungent odor of an old-fashioned liquor pervading the night air.

"Bless the dead," Ord repeated, with feeling.

The brothers touched mugs with a cool, almost musical sound.

Then, as Ord drank, Perfect told him, "I want to give you a talent. I don't have Alice's magic, but here's something you might appreciate."

Ord's mug became a nearly spherical ball.

Not heavy, not large.

It was a head, he saw. A Chamberlain head, complete with red hair and the piercing blue eyes. And emitting an enormous laugh, so pure and authentic that Ord couldn't help but smile for a moment, closing his hand over the sweet gift, knowing what it was and almost saying, "Thank you," before he realized that nobody was standing beside him anymore.

He squeezed the head until it vanished, becoming part of his immortal flesh.

Then Ord again looked at the Milky Way, realizing that most of it remained at peace, tranquil and inviting by any measure. And he managed to laugh in a quiet, hopeful way. Picking up his knapsack now. Thinking that, all things considered, it was a lovely night for a little walk. ●

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ON BOOKS

Moshe Feder

GEORGIA ON MY MIND: AND OTHER PLACES

by Charles Sheffield
Tor Books, $21.95 (hardcover)

I felt at home reading this collection of fourteen stories, or at least, comfortably ensconced in the library of a friend; confident in the ability of my host to conduct me on mental journeys to distant reaches of space or time and bring me safely back again. Sheffield's sureness of hand inspires that kind of trust and produces a consistency that gives even his less important stories an ability to satisfy. Perhaps it's just the sense I get that here's a man who grew up reading the same kind of hard SF stories I did; who, like many of us, was inspired by them to become a scientist, and who, unlike most of us, actually did, and who ever since has tried to advance the form, while staying faithful to its roots. Thus his stories use science intelligently, honestly and imaginatively, but depend at least as much for their effect on their human element. This should be no surprise to some of you, since five of the stories appeared originally here in *Asimov's*.

"The Bee's Kiss" was one of those. It's the story of Earth's greatest voyeur being forcibly recruited to spy on aliens. It has something to say to us both about the varieties of human experience and the error we'd be making in trying to map those experiences too simplistically onto aliens. What seems horrifying or disgusting to us may be matter of fact and necessary to them. If we want to deal with aliens, we must be broad-minded in the most extensive sense.

"Deep Safari" shows us how Isaac Asimov's *Fantastic Voyage* may actually become a reality, with telepresence and nanotechnology.

What I particularly like about this story is Sheffield's recognition that such technology is just as likely to be used for entertainment—safaris into microscopic worlds—as for medicine.

"Humanity Test" has all the chilling power of the classic story it's a response to, Tom Godwin's "The Cold Equations," and some of its characters have a similar problem to solve. However, the tragic quality at its conclusion comes not from the clash of innocent ignorance and the laws of physics, but from the more traditional and probably more universal cause of human prejudice.

Ever since reading the short-story version of Moorcock's "Behold the Man," I've thought that

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someone should assemble an anthology of SF stories in which Jesus is a character. Certainly Sheffield's "The Fifteenth Station of the Cross" would have to be included, even though I'm not completely convinced by the personality and behavior of his version of Jesus. Nevertheless, the way he uses this figure in the story is certainly interesting.

"Obsolete Skill" is a delightful little bonbon every true science fiction fan will devour with a satisfied smile, for it attempts to show what might happen to a science fiction writer who was cryogenically frozen upon death and revived almost two centuries later. Naturally, the smug denizens of the future are in for a surprise.

"Georgia On My Mind" won a Nebula as Best Novelette and for once I find myself agreeing with the voters. Its mixture of real history and geography, of Babbage's Analytical Engine and aliens, produces an effect, at least on me, akin to that the travel tales of the eighteenth century must have produced for readers then. I find myself feeling it could all be true or, at least, wishing it were. Surely a writer could have no higher compliment.

THE MOUNTAINS OF MAJIPOOR

by Robert Silverberg
Bantam Books, $19.95 (hardcover)

Although I've had the opportunity, I've never thought to ask Robert Silverberg if he was consciously writing in a Vanceian mode in the three Majipoor books (1980–83)—and certainly there is more to them than that, in any case—but I found myself wondering all over again while enjoying this belated addition to the sequence. It's not so much exactly that he adopts a Vance-like style, or that Majipoor might remind you of a number of Vance's milieus (especially Big Planet), but that he adopts a Vance-like *tone* in his narration, not just third-person omniscient, but *knowing* and gently ironic. This is a narrative voice of experience, worldly but not world-weary, one that's seen it all before and will see it again with equal enjoyment.

That's a fair description of my reaction to this book, as well. There's nothing new here, but I didn't mind for a minute. It's too much fun watching Prince Harpirias go from arrogant certitude through frustrated helplessness to hard-earned accomplishment and success.

Prince Harpirias is the distant descendant of a Coronal of Majipoor, and though he can never aspire to such a position himself, he is content to relax and enjoy life, which isn't hard to do on Castle Mount with its Fifty Cities, beautiful landscapes and temperate climate. Unfortunately, while hunting on his twenty-fifth birthday, he accidentally kills a valuable animal belonging to a powerful lord. He soon finds himself exiled to a distant provincial city.

It begins to look like he's stuck there for life, until the chance to

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redeem himself arises, in the form of a diplomatic mission to the Othinor, a savage tribe beyond the northern edge of the known world, who have taken a party of anthropologists prisoner.

Harpirias has to placate the primitive Othinor, who live year-round in buildings built of ice, and who have no real grasp of Majipoor's size or the Coronal's actual power, and he must convince them that their independence will be respected, while he presses for the scientists' release. Making matters more difficult, at least for Harpirias, is the Othinors' belief that *he* is the Coronal, a misapprehension his wily Metamorph guide and translator, Korinaam, refuses to correct. Harpirias's frozen fix is further complicated when his guest room is visited after the welcome banquet by a young woman who expects to sleep with him—the king's youngest daughter, it turns out. Harpirias is quickly learning that diplomacy can be as novel an experience as seeing snow for the first time, and much more challenging!

The reader may face less challenge here than Harpirias does, but he is certainly entertained, and in a polished, if not surprising, fashion.

1901

by Robert Conroy
Lyford Books (Presidio Press), $21.95 (hardcover)

I'm pleased to be able to bring to your attention an alternate history you would probably otherwise not have heard about, since it's being published outside the field by a military specialist publisher. I came across it while still the editor of The Military Book Club, and bought the book club rights. At this point, however, my only connection to the novel is as its reviewer.

This is alternate history at its simplest and most refined. The plot is free of time travel or movement among parallel worlds. The author simply asks a solely historical question: what if imperial Germany had invaded the northeastern United States in 1901? The linear purity of this premise started me thinking again about the whole issue of why we consider alternate history stories to be SF. After all, they bear few of the hallmarks of the genre. They usually take place on Earth rather than in space and in the past rather than the future. They tend to involve humans alone without any aliens, and can often do without high technology of any kind. Yet few of us would argue that they aren't SF.

The answer is that in common with the authors of other science fiction, the authors of alternate history are engaged in considered, structured speculation, trying to apply the logic of history as others must apply the laws of science. Like other SF writers they must engage in extrapolation, albeit in a different temporal matrix. Also, as in all traditional SF as opposed to mainstream fiction, there is a dif-

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ferent emphasis in the balance between setting (understood in its broadest sense) and character. A mainstream writer puts imaginary characters in a setting borrowed from reality and divides his efforts accordingly. An SF writer puts imaginary characters (or in the case of alternate history, perhaps recreated historical figures) in an imaginary setting (of place and/or time). The setting often contains much of the story's appeal for a typical SF reader, because it is usually where the story's premise resides. We all appreciate a good use of the human element in an SF story, but we'll also forgive some weakness there if the other elements, the author's "ideas," excite us.

This is as true of alternate history as of other science fiction. So even if history isn't a science, it's clear that alternate history stories are part of the SF family.

In Conroy's year of 1901, the Kaiser is jealous of America's new colonial prizes, recently acquired from Spain. He demands we hand over Cuba and the Philippines. When President McKinley refuses, Germany launches an invasion intended to convince us to change our mind. McKinley dies of a heart attack, and young Vice President Theodore Roosevelt, who's been itching for a fight, finds himself in charge. Unfortunately, the U.S. is in no position to offer immediate resistance, with much of its army out west or abroad and much of the navy a hemisphere away.

The Germans start out by coming ashore on Long Island, then burn Brooklyn and occupy New York City and nearby Connecticut. Conroy isn't the most polished of novelists, but he shows us all this effectively from a number of viewpoints, including the invaders'. There are some lovely period touches: Edison's men film the German depredations to further inflame people around the country, for example. We see Admiral Dewey meeting the famous Confederate general brought out of retirement to lead the American forces. John Holland gets to command the submarine he's just built for the navy in action against the German ships in New York harbor. A lucky shot with a new torpedo hits a munitions ship and initiates a spectacular scene of destruction that would be a great basis for a cover painting if *1901* ever makes it into paperback.

The climactic battles, however, take place on the high seas, where Dewey takes on the German fleet, and in Connecticut, where the armies clash. Conroy does a fine job with all the martial aspects, from the detail of weapons and uniforms to the likely tactics and strategies used by the two sides under the direction of a variety of famous military figures. Like all such pure alternate history, this novel will be most enjoyed by those who have some familiarity with history as it actually occurred. I hope that includes you.

* * *

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PASQUALE'S ANGEL

by Paul J. McAuley
AvoNova/Morrow, $22.00
(hardcover)

Where *1901* was linear in its treatment of historical speculation, this novel's approach might better be described as branching. This is primarily because the point of divergence from actual history does not occur during the story but some time before, so that by the time of the action, the change has already had numerous repercussions. Here, McAuley asks us to imagine that Leonardo, referred to throughout as the Great Engineer, actually built all the devices he drew in his notebooks, allowing Florence to defeat Rome and her allies with the aid of armored "turtles" and multibarreled cannon. In addition, we must accept that as a reward, Leonardo required the establishment of a great new university (with a high tower for him to live in), which led in turn to many more discoveries and inventions.

McAuley asks us also to imagine what Italy, and the world, might have been like if all these inventions were quickly and broadly accepted. Thus, Florence has become a city of automatic looms, chemical dyes, screw-driven ships in the polluted river, semaphore communications, acetylene lamps, steam-powered *vaporetti* crowding the streets, and so many factories that it is swathed in smog. The Renaissance was a time of tremendous ferment and openness to novelty, but this swift degree of advancement is still a lot to accept.

McAuley gets us to go along, but as many authors have in similar situations, he finesses the question by setting his action after all the really difficult adjustments have been made. We never get to see anyone suffering the fifteenth century version of future shock. Perhaps I was willing to accept his vision because his main focus, until fairly late in the book, is not on all the technology, which in fact is sprinkled through the story quite judiciously, but on old-fashioned Renaissance intrigue, much of it centered on the artists' community. Raphael and Michelangelo have roles to play, and in the final pages, we do at last get to see Leonardo. The title character is an artist too.

Pasquale, a young painter nearing the end of his apprenticeship, has a quick eye and a good memory, qualities that commend his copperplate engravings to the new daily broadsheets. His pornographic prints are good enough that others have pirated them. His own artistic goal, however, is on another plane. For the master work that will mark the end of his apprenticeship, he hopes to paint an angel as no one ever has before. He has even experimented with a drug from the New World, hoping for a vision that will inspire him.

It isn't long, however, before the angel is temporarily forgotten and much more of his energy is devoted to assisting Niccolo Machiavegli, who's been working as a journalist

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since losing his position in government. Their initial goal is to solve the murder of one of Raphael's assistants, but their investigation leads them deeper and deeper into the swirling maze of plots and schemes that seemingly pervade Florence almost as thoroughly as the smog. Is someone trying to foil the long-awaited rapprochement between Florence and the Pope, whom Raphael unofficially represents? What does the involvement of those professing to use black magic mean? Is imperial Spain involved? And what of the newest technologies, not yet officially released from Leonardo's tower but already being used by a few and sought by many? Are they the means to an end, or the very object of some villain's quest?

The twists and turns can't gracefully be outlined here, but what's impressive is that even with his well-stuffed plot—which is, in fact, satisfactorily worked out—McAuley's hold on his sense of place is always firm. This alternate Florence only becomes clearer in our mind's eye as the story evolves, not because he shows us every inch of it, but because his grasp of the details, as in the work of his artist characters, is so complete. When we are shown how a fresco is prepared, we can build outward, like a zoom lens pulling back, seeing the wider view as if it had been delineated with the same detail. It's a trick really, that the mind plays on itself with the help of a good writer, but a very useful one.

Appreciation of any alternate history story is enriched by a knowledge of the subject period, but this is one that can be enjoyed by anyone who enjoys a good story set in a colorful, unfamiliar milieu. For an author previously known for universe-spanning hard-science epics, it represents a noteworthy and impressive shifting of gears.

A FARCE TO BE RECKONED WITH

by Roger Zelazny & Robert Sheckley
Bantam Books, $12.95
(trade paperback)

Having missed out on *Bring Me the Head of Prince Charming* (1993) and *If At Faust You Don't Succeed* (1994), I thought it was about time to find out what two of my favorite authors have been up to as collaborators—even if their third title isn't quite as clever—in their series of novels about the dashing demon Azzie Elbub. The answer, in a nutshell, is modestly entertaining lightweight fluff that hardly seems to show evidence of the application of so much auctorial horsepower. Oh well, maybe they just enjoy working together.

This one's the story of how Azzie, while visiting fourteenth century England, happens to see a morality play, and gets the idea that what Evil needs in its battle against Good is an *im*morality play. He commissions Pietro Aretino in sixteenth century Venice to write it, based on an ancient Gnostic legend that Aretino digs up about seven golden candlesticks that Satan

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gave Adam to help him find his way back to Eden after the Fall. Azzie retrieves the original candlesticks from storage in Limbo and proposes to outline the action of the play by giving them to seven mortals, each of whom will use one to achieve his or her heart's desire. Aretino will observe and base his play on what actually happens, weaving the plot threads to demonstrate in the end that the Seven Deadly Sins needn't be fatal, and that often good fortune has no connection with virtue.

Azzie's old girlfriend, the reformed witch Ylith, and his old friend and nemesis, the angel Babriel, get wind of this and determine to stop it. That proves not to be so easy, especially when Ananke, the essential principle of Necessity that rules both Good and Bad, takes a hand. When the old Greek gods escape their exile and interfere as well, threatening the very survival of Venice, things do get pleasingly complicated for a bit. Still, the best thing I can say for this novel is that there are some chuckles and a number of moments, amidst all the flitting around the cosmos and through and outside time, when I am reminded somewhat of James Branch Cabell's work. Perhaps it's the casual attitude toward all the various powers and divinities, perhaps it's the gentle mocking of human foibles, perhaps it's that Ananke reminds me a bit of Cabell's Koshchei, who rules over the gods we are more familiar with from behind the scenes. In any case, since I can't hide the fact that I think both Zelazny and Sheckley—together or individually—are capable of much better than the work they've done here still, perhaps they'll at least be pleased by the comparison to one of fantasy's finest satirists.

SCIENCE FICTION FANDOM

Edited by Joe Sanders
Greenwood Press, $55.00
(hardcover)

For a change of pace, I thought I'd close with some nonfiction. It's a book that claims to be "the first to attempt a comprehensive survey of fandom." As far as I know, it is. Note that it says "survey" not "history." There *is* history here, albeit necessarily in synoptic form, but there is also much more. The result is a book I'm very pleased now exists to go, as its price indicates, into academic libraries all over the country, providing a permanent record of a special world I've been part of for over two decades, and which has meant so much to me. (Naturally, the first thing I did was look myself up in the index. No, I'm not mentioned, although at least one person I brought into fandom is, as are some of the people who brought me in. Hmmn, just call me the missing link!)

The book's roughly three hundred pages are divided into six sections. In the first, "Roots of Fandom," Juanita Coulson discusses fannish demographics and Robert Coulson examines what it

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means to make fandom your way of life. He ought to know, since he's been in fandom about forty-four years, more than twice my span.

In "Fandom in America," Sam Moskowitz, Robert A. Madle, Art Widner, Harry Warner, Jr., rich brown, and John and Bjo Trimble sequentially outline the history of fandom's original and still largest community. Moskowitz's revelations about what we might call fandom before fandom are particularly novel and interesting, but the others, continuing through brown, do a fine job of summarizing the rich history up to 1990, while the Trimbles cover such related alternative communities as Trek fandom and the Society for Creative Anachronism.

I have to extend my sympathies to Bob Madle at this point and chastise Greenwood and/or Sanders for inexcusable sloppiness. They should particularly be ashamed of it in a book this expensive for which there is no alternative on the market. Including notes, Madle's chapter runs seventeen pages. Within those there are thirteen page starts or ends that are disconnected from what precedes or follows them, i.e., sentences that go nowhere or begin in the middle. Sometimes both ends of one page are affected. Probably no more than a line or two is missing in each case, but there's no way for a reader to be sure, and in any case the damage done to Madle's narrative is quite serious. It's hard to understand how a mangling of this magnitude could have escaped the most cursory proofreading.

This is as good a point as any to mention another shortcoming: inconsistency in technical style. For instance, some chapters have footnotes, most do not. Where there are footnotes, they aren't handled in the usual way, as superscript numbers, but in parentheses. This may seem like nit-picking, but if we want this book to be taken seriously by an academic audience, it does matter. But to continue—

Part Three, "Variations and Echoes," deals with fandom outside the U.S., with Terry Jeeves on British fandom, Pascal Thomas on Western European fandom from a French perspective, Roelof Goudriaan (from the Netherlands) on SF fandom as a pan-European movement, Wu Dingbo (one of the few contributors I don't personally know) on fandom in China, and Masamichi Osako (ditto) on fandom in Japan. It's very easy to think of fandom as purely American, and this section is a useful corrective to that tendency. The similarities and the differences are thought provoking.

Part Four deals with fandom's two basic modes of social interaction: clubs and conventions. F.M. Busby deals with the former by using Seattle's famous The Nameless Ones as an example. Conventions are dealt with as the attendee experiences them by Hank Luttrell, and as those in charge see them by Tom Whitmore and Debbie Notkin. Quality material like this is like

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having movable type explained to you by Gutenberg.

The parade of experts continues in Part Five, entitled "Long Term Results" because it deals with fandom's less ephemeral contributions and effects. Harry Warner, Jr. returns to provide a history of fanzines. Bernadette Bosky does the same for Amateur Press Associations (APAs) and adds some interesting sociological observations. Richard A. Lupoff's "Into the Aether, Junior Spacepersons!" deals with the question of fans evolving into pros, along with some cogent and amusing observations on the incestuous nature of the fan and pro worlds. (My reviewing this book would have made an excellent example for him!) Along parallel lines, the late (d. 1985) Jack Gaughan offers a charming look at the process by which a fan artist becomes a pro artist. Robert Weinberg discusses the fan presses, Howard DeVore offers a droll disquisition on collecting and Russell Letson and Sandra Miesel give us two perspectives on the role of fans as critics.

In the sixth and final section, Joe Siclari offers an annotated select bibliography on fandom. Despite one error (about the Beatles) that leapt out at me, this is a valuable and tantalizing resource and a testament to Joe's expertise. Joe Sanders and rich brown provide a brief glossary of fanspeak, something that's been done before, but never in such permanent form. An index and brief bios of the contributors wrap things up.

Despite its flaws, this is a book for which we have to be grateful. Thanks to its laudable concept of letting fandom speak for itself, the picture it gives, if not quite as transparent to outsiders as it thinks it is and ought to be, is comprehensive, not unduly immodest and, despite some minor errors, generally accurate.

I wish I could recommend this book to those *Asimov's* readers who've wanted to learn more about fandom, but I think you'll agree the price is prohibitive. I've used my book club contacts to suggest to Greenwood that they issue an affordable trade-paperback edition, but I don't know if they'll chance it. Meanwhile, by all means ask your library to order it.

Science Fiction Fandom will make a fine starting point for any student of SF who wants to know what fandom is about. If any potential neofan should discover it, it may even start him or her on the road to the Tower of Trufandom. It's amazing that the world has changed to the point where a nonfannish company would commission and publish a book that could do that. It just has to refresh your sense of wonder and maybe even prompt you to exclaim, as *Time* magazine once long ago alleged we fans do: "Goshwow, oh boy, oh boy, oh boy!" ●

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SF CONVENTIONAL CALENDAR

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JULY 1995

21-23—**ConVersion.** For info, write: **Box 1088, Stn. M, Calgary AB T2P 2K9.** Or phone: **(403) 271-0662** (10 AM to 10 PM, not collect). Con will be held in: Calgary AB (if city omitted, same as in address) at the Glenmore Inn. Guests will include: L. M. Bujold, G. Bear. Literary & media SF.

21-23—**Costume College.** Airtel Plaza Hotel, Van Nuys CA. Workshops and demos for costumers.

27-30—**Comic Con. (619) 491-2475 or (619) 544-9555.** San Diego Convention Center. Preceded by trade show.

28-30—**ConFluence. (412) 344-0456.** Sheraton, Mars PA. John Barnes, Wm. Tenn, Kara Dal Key.

28-30—**DarkCon. (405) 376-4959 or (405) 794-7624.** Ramada, Norman OK. Darkmoore gaming meet.

28-30—**ConTinuum. (314) 334-4386.** Ramada, Mt. Vernon IL. Guests TBA. Star Trek convention.

AUGUST 1995

2-6—**AvalonCon, 4517 Harford Rd., Baltimore MD 21214. (800) 999-3222.** Hunt Valley Inn MD. Games.

4-6—**Toronto Trek, Suite 0116, Box 187, 65 Front St. W., Toronto ON M5J 1E6. (416) 699-4666.** Regal.

4-6—**August Party, Box 203, Brentwood MD 20722.** Hilton, Gaithersburg MD. Star Trek. No guests.

4-6—**Bal+Con, Ormingeringen 55B, S132 33, Saltsjo-Boo Sweden. (446 [0] 8) 641-3407.** Stockholm.

4-7—**MythCon.** University of California, Tim Powers. High fantasy (Tolkien, Lewis, Williams).

10-13—**GenCon, Box 756, Lake Geneva WI 53147. (414) 248-3625.** MECCA, Milwaukee WI. Gaming.

11-13—**BuboniCon, Box 37257, Albuquerque NM 87176. (505) 266-8905.** Howard Johnsons' East. Turtledove.

11-13—**VikingCon, WWU, Viking Union Box V1, Bellingham WA 98225. (206) 734-0919.** WWU campus.

11-13—**DiversiCon, Box 8036, Lake St. Stn., Minneapolis MN 55408. (612) 825-9353.** L.A. Taylor. Adults.

11-13—**Mountain Media Con, Box 33001, Northglenn CO 80233.** Sheraton, Lakewood (Denver) CO. Zines.

11-13—**MunchCon, % L. Smith, 244 Riverside Dr. #3F, New York NY 10025.** Wilmington DE. Oz fans.

11-13—***OgreCon, Box 300076, Midwest City OK 73140.*** *Central Plaza, Oklahoma City OK. Dr. Who.*

11-13—**Fantasy Faire, Box 820488, Dallas TX 75382. (214) 250-4305, 739-5123.** Market Hall. Comics.

12-13—**MallWorld, Box 188993, Sacramento CA 95818. (916) 447-0856.** Florin Mall. Trek. Guests TBA.

12-14—**Norway Nat'l. Con, Box 121, Vinderen Oslo N-0319, Norway.** BLS Center. Aldiss, Cherryh.

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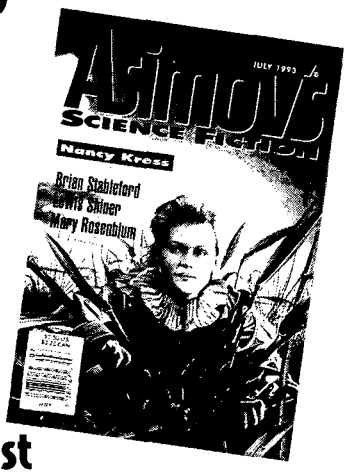

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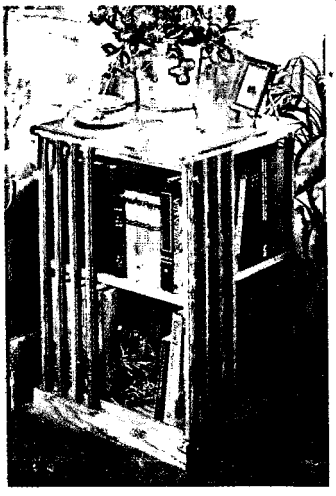

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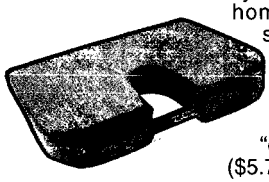

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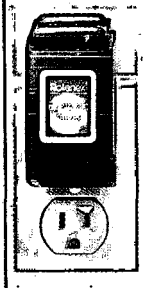

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